Vol. 128. No. 5 MAY, 1928 Price 25 Cents

AMERICAN GAS JOURNAL

Established 1859 Pioneer of the Gas Industry

Including · GAS INDUSTRY · Est. 1900 ·

Six Major Improvements

1 **Sprague Special Diaphragms**
Acid resisting, mineral retanned leather

2 **Enclosed Top Bracket**
Protects and lubricates the worm and gear

3 **Improved Valve Cover**
Eliminates possible breakage in transit

4 **Raised Bosses on Flanges**
Eliminates seepage in wet gases

5 **Bronze Bushed Links**
Reduce wear and lost motion

6 **Improved Adjustment Tools**
Reduce shop costs

All designed to better the one and a half million Sprague Meters in service

THE SPRAGUE METER CO.
BRIDGEPORT, CONN.

Library of Congress
MAY 8 1928
Smithsonian Deposit

Becker Type Ovens
for
The Central Public Service Corporation
at Rockford, Illinois

THE Central Public Service Corporation has arranged to meet its increased gas requirements at Rockford, Illinois, with Becker Type Ovens. A contract has been awarded to the Koppers Construction Company for the construction of the plant.

The installation will consist of 21 Becker Type Combination Ovens with a daily gas capacity of approximately 3,500,000 cubic feet. Auxiliaries include 2 Koppers Gas Producers, a By-Product Plant with equipment for the production of ammonium sulphate and a Coal and Coke Handling Plant.

The plant will be a complete production unit and will be characterized by ready adjustment of output to demand.

The Koppers Construction Company

Chicago **Pittsburgh** **New York**

AMERICAN
GAS JOURNAL
Established 1859 *Pioneer of the Gas Industry*
Including GAS INDUSTRY Est. 1900

Published Monthly by American Gas Light Journal, Inc., 33 Park Place, New York, N. Y.

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R. S. McBRIDE, *Consulting Editor*—Washington, D. C.

Vol. 128. No. 5 **May, 1928** **Whole Number 3653**

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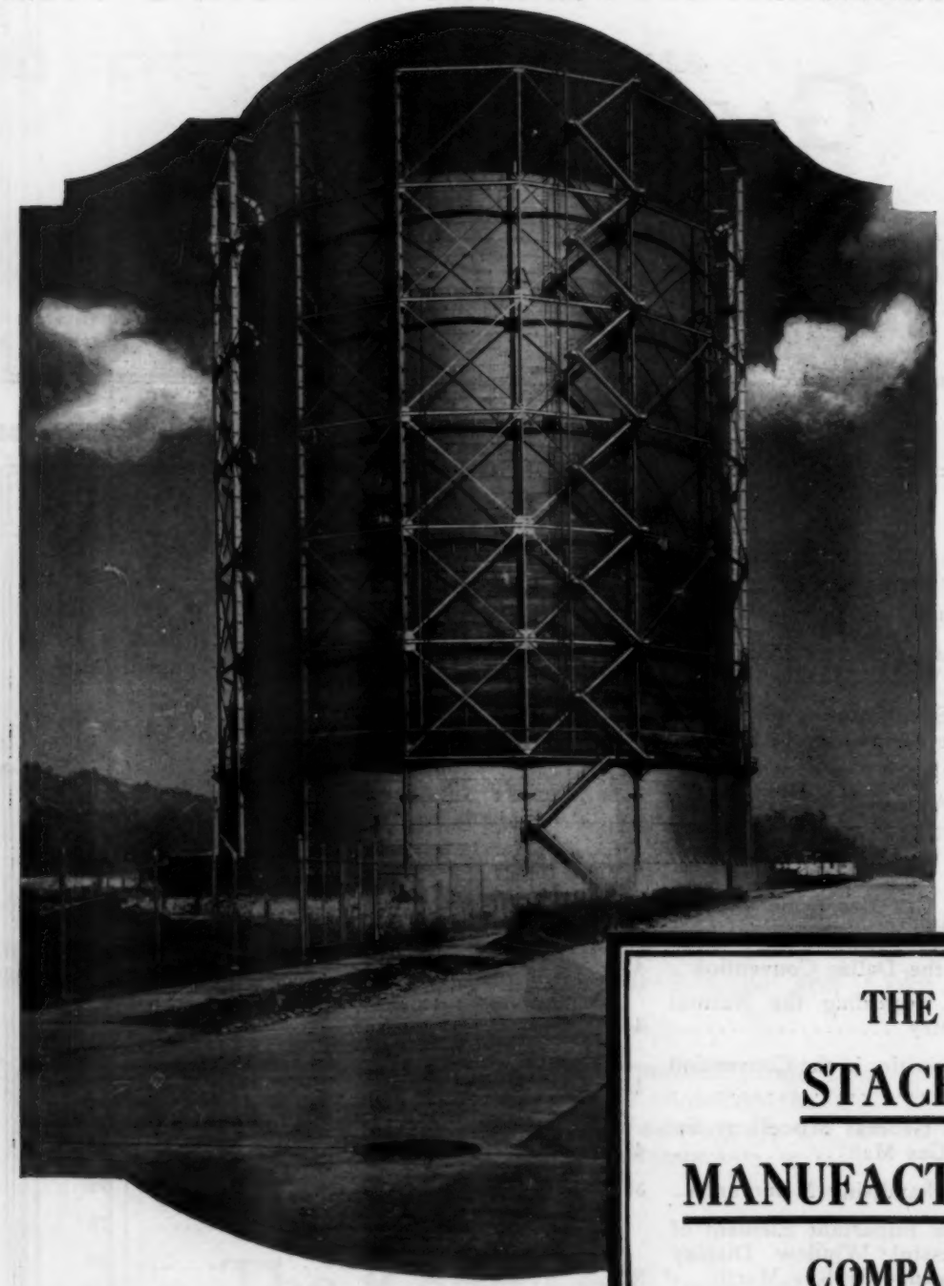


3,000,000 Cu. Ft. B Lift Gas Holder
Built for
The Nassau & Suffolk Lighting Co.,
Long Beach, Long Island

77 Years of Service to the Gas Industry

THE

STACEY

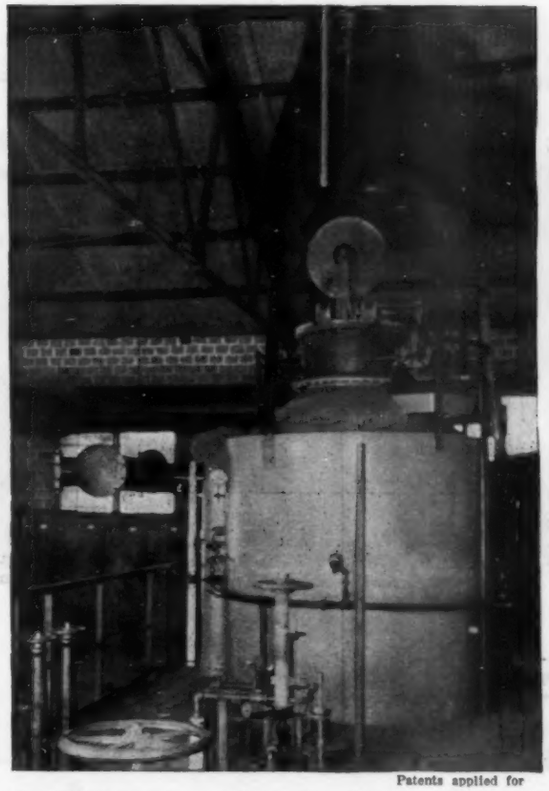
MANUFACTURING

COMPANY

CINCINNATI, OHIO

NEW YORK OFFICE
52 Vanderbilt Ave.

Kill Three Birds with One Spray System



Patents applied for

Superheater of 8-ft. Steere Water Gas Machine at the plant of the Pavilion Natural Gas Co., Pavilion, N.Y., showing arrangement of sprays and piping

Make use of the heat at the top of the water gas superheater.

Keep down your investment in steam generating equipment.

Use the effluent of the water gas plant to make process steam for Backrun, instead of allowing it to pollute streams.

By installing Steere Water Sprays in the superheater you can convert all contaminated water gas plant liquors into steam. The high temperatures in the superheater dome are sufficient to make all the process steam required for the Backrun.

This simple improvement will save one-half of your process steam and relieve the load on your boilers to that extent. In addition, you improve the heat balance and ***make your plant "pollution tight."***

Our Bulletin No. 41, "Water Versus Steam for Water Gas Making" describes the system. Write for it.

SEMET-SOLVAY
ENGINEERING CORPORATION
Division Allied Chemical and Dye Corp.
40 RECTOR ST. NEW YORK

SMOOT STEAM ACCUMULATOR

28-3
Concord Gas Co., Concord, N. H., installation of 8 ft. x 22 ft. Smoot Steam Accumulator. The U. G. I. Contracting Co., Engineers.

28-4
Hudson Valley Coke & Products Co., Troy, N. Y., installation of 9 ft. x 30 ft. Smoot Steam Accumulator. Semet-Solvay Engineering Corp., Engineers.

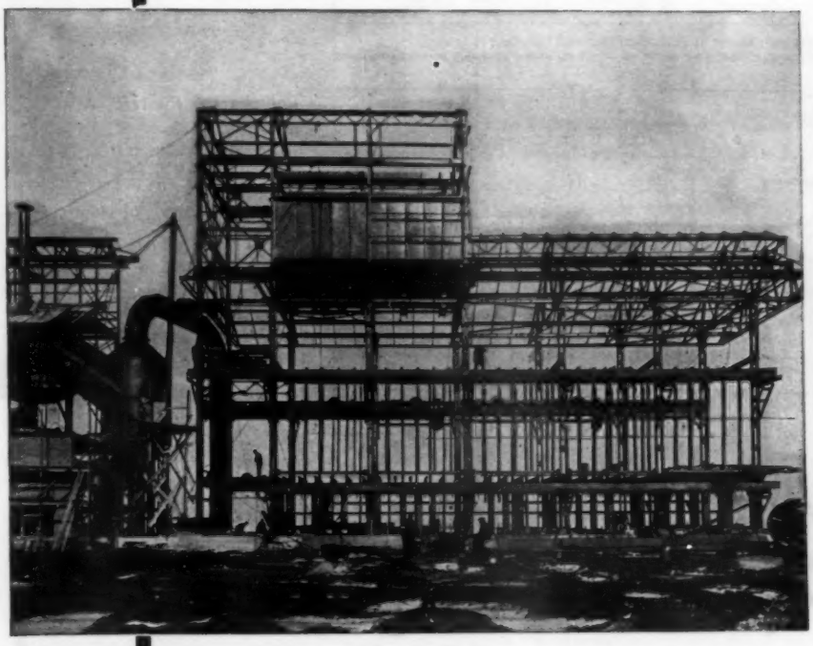
RESULTS are back of the SMOOT STEAM ACCUMULATOR

Over forty installations in water gas plants are producing savings in fuel, have eliminated steam waste and have produced improved operating conditions.

Accurate regulation of steam pressure through SMOOT CONTROL contributes to these results. The combination of the SMOOT STEAM ACCUMULATOR and SMOOT CONTROL has made the use of exhaust steam a success in the leading water gas plants operating from one to eight or more machines.

SMOOT ENGINEERING CORPORATION
136 Liberty Street New York

SMOOT CONTROL



Racine plant of the Wisconsin Gas and Electric Company, now under construction

U.G.I. Intermittent Chamber Ovens

Provide a satisfactory and economical method of coal gas manufacture without expensive plant equipment.

These ovens, being vertical, eliminate the necessity of mechanical discharging machinery.

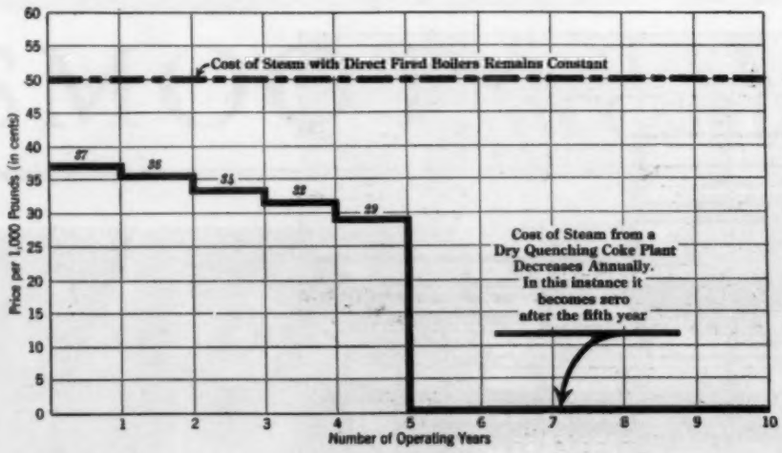
They are reasonable in first cost and easily operated, with low maintenance and operating costs.

Their efficiency in gas, coke, tar and ammonia production is not exceeded by any other type of carbonizing system.

UNITED ENGINEERS & CONSTRUCTORS
Incorporated
DWIGHT P. ROBINSON, PRESIDENT

U.G.I. Service Plus

PRINCIPAL OFFICE — PHILADELPHIA


Cost of Steam with Direct Fired Boilers Remains Constant
Price per 1,000 Pounds (in cents)
Number of Operating Years
37
36
35
32
29
Cost of Steam from a Dry Quenching Coke Plant Decreases Annually. In this instance it becomes zero after the fifth year

The chart at the left compares the cost of producing steam by direct fired boilers and by heat reclaimed by the Sulzer System of Dry Quenching Coke.

What About the Economies of Dry Quenching ?

THE DRY QUENCHING of coke by the Sulzer System is profitable to both the coke manufacturer and the ultimate consumer. Let us consider the principal advantages to both maker and user—

Coke Manufacturer

The sensible heat of the hot coke is reclaimed and produces from 650 to 900 pounds of steam per ton of coke cooled.

Increased profit due to better quality of coke obtained; a coke absolutely dry and containing very little dust.

Reduction in labor costs due to the substitution of automatic machinery for manual labor.

Reduced costs for maintenance of hoisting and conveying machinery, which is no longer exposed to the destructive influence of steam and acid vapors, as with wet quenching.

Coke User

Better thermal efficiency is obtained due to the use of absolutely dry coke.

Dry Quenched Coke is cooled slowly and is stronger mechanically, thus increasing the capacity of the furnace and minimizing breakdown of the coke in transit and during charging.

Increased furnace output due to decrease in amount of small coke and dust.

Reduced freight and handling charges due to absence of moisture (wet quenched coke containing 8% moisture, is equivalent to one car of water in each twelve cars of coke hauled).

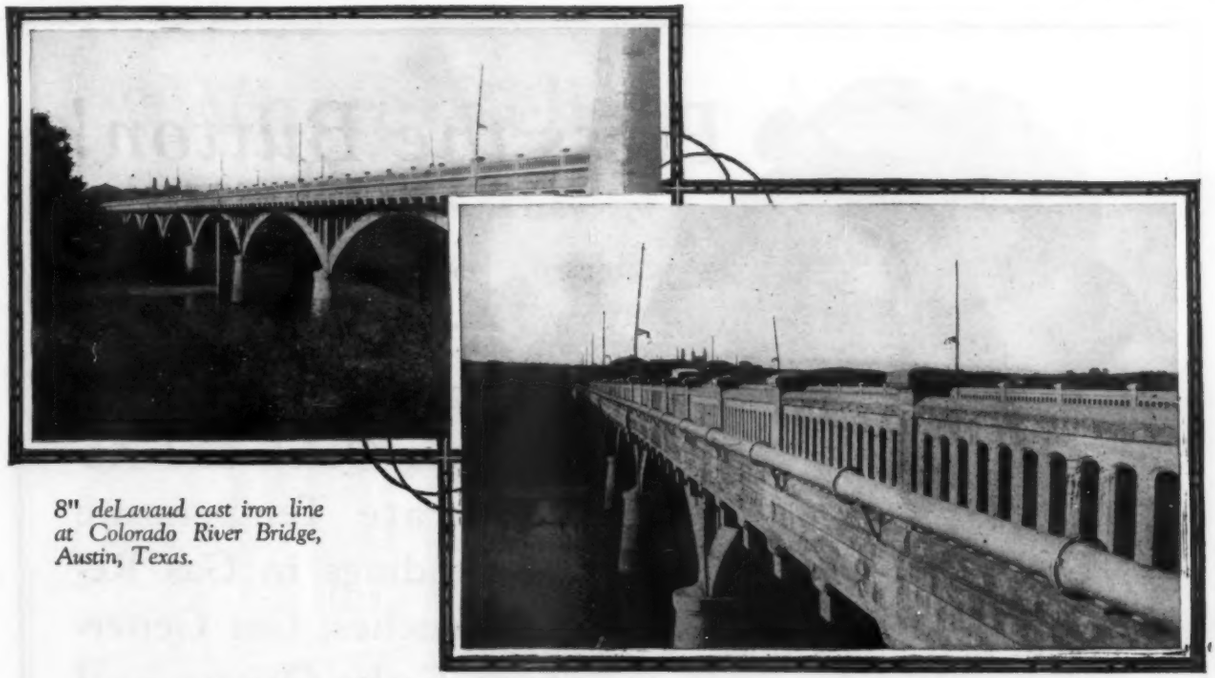
THE Sulzer System for Dry Quenching coke is simple and dependable. The hot coke is charged into a sealed quenching chamber. Inert gases are circulated in a closed cycle by means of a fan, first through the hot coke mass where they absorb the sensible heat of the glowing coke, and thence through a steam boiler where hot gases transfer this heat to the water in the boiler circulatory system and convert it into steam. Literature describing the Sulzer System will be sent upon request.

Dry Quenching Equipment Corporation

INTERNATIONAL COMBUSTION BUILDING

200 MADISON AVE. NEW YORK — N. Y.

A SUBSIDIARY OF INTERNATIONAL COMBUSTION ENGINEERING CORPORATION

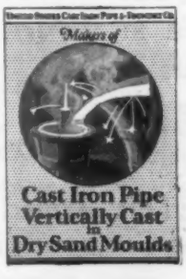


8" *deLavaud cast iron line at Colorado River Bridge, Austin, Texas.*

deLavaud Centrifugal Cast Iron Pipe with Anthony Joints makes a *permanently* tight line

SUCH installations as illustrated here are subject to unusual strains and constant vibration. The great tensile strength of deLavaud pipe and the flexibility of the Anthony Joint eliminates the possibility of these strains causing leakage.

Municipal, industrial or construction engineers should write for literature covering specifications, manufacture and use of deLavaud pipe for high pressure mains.



United States Cast Iron Pipe and Foundry Company

General Offices:
Burlington, New Jersey

SALES OFFICES

Philadelphia: 1421 Chestnut St.
Chicago: 122 So. Michigan Blvd.
Birmingham: 1st Ave. & 20th St.
Buffalo: 957 East Ferry Street
Cleveland: 1150 East 26th Street
New York: 71 Broadway
San Francisco: 3rd & Market Sts.
Pittsburgh: 6th & Smithfield Sts.
Dallas: Akard & Commerce Sts.
Kansas City: 13th & Locust Sts.
Minneapolis: 6th St. & Hennepin Ave.

Pyro Radiation Pyrometer
Weight 25 oz., Length 7 in.
Temperature Range 1000°-3600° F.

Press the Button!

Pyro

Radiation Pyrometer gives Quick and Accurate Temperature Readings in Gas Retort Benches, Gas Generators, Coke Ovens and Furnaces of all types.

One Gas Company Superintendent says--
"Your Pyro Radiation Pyrometer has given us entire satisfaction and has enabled us to carry the heats on our benches at a uniform temperature."

This handy, self-contained instrument has no batteries or attachments. Look through it at any point in a retort, generator, oven or furnace, press the button and the dial gives an instant and accurate reading of the temperature AT THAT POINT,—

No guesswork!
No calculating!
No chance for error!

Speed!

In a practical test on Gas Retorts, 280 readings were made and recorded in less than three and one-half hours,—equal to a reading every forty-five seconds.

PYRO RADIATION PYROMETER is used in more than 6,000 plants and shops the world over. Among Gas Companies it is giving "entire satisfaction in every respect."

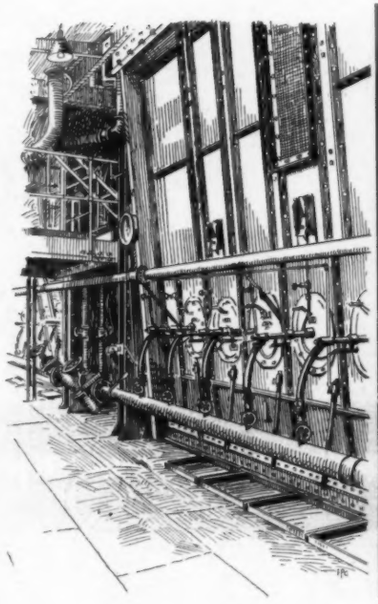
We will send one to any Gas Company
on two weeks' trial. Write now!

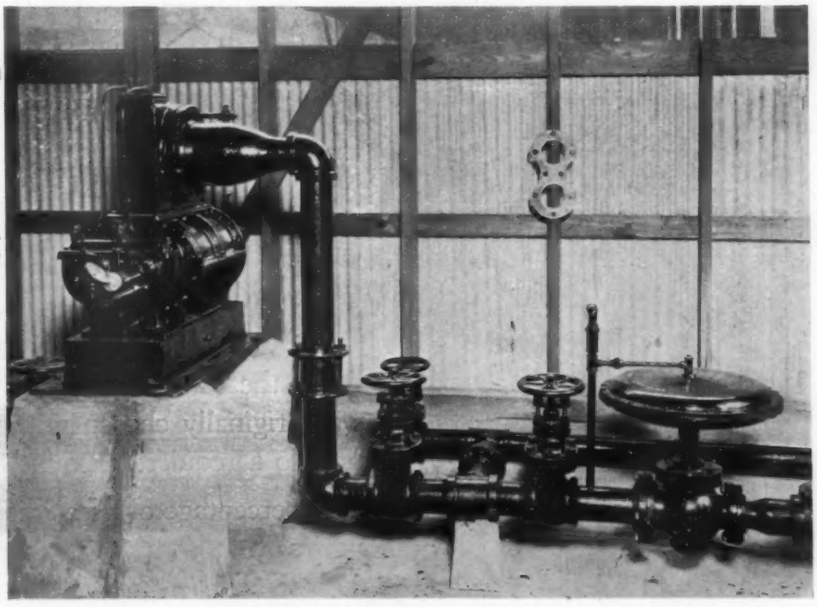
The Pyrometer Instrument Co.

52 Howard Street
NEW YORK

Where Reliable Accuracy Precludes Disputes

The known accuracy and proven dependableness of Connersville Meters, in the measurement of the gas, leave no doubt in the minds of either buyer or seller; therefore, readings from them form a logical basis for payment.





This is true where large quantities of gas are sold by producing to distributing companies; also, where, in the natural gas belt, for example, gas is burned under boilers and in industrial furnaces. The 6″ x 18″ Connersville Meter shown here is one of a number that the San Antonio Public Service Co. has installed on the premises of large consumers for just such purposes. It plays no favorites and its records are accepted by the customer and the seller.

Ask for a copy of Bulletin 4C and prices on meters for industrial installations.

THE CONNERSVILLE BLOWER COMPANY

12th Street and Columbia Avenue, Connersville, Indiana

Sales Offices:	1454 Monadnock Block Chicago	604 Chamber of Commerce Bldg. Pittsburgh	Eastern Service Co. Boston	114 Liberty St. New York

CONNERSVILLE

Blowers • Gas Pumps • Meters • Cycloidal Pumps

Get full carrying capacity

by reaming your pipe with this Ratchet Pipe End Reamer after every cutting.

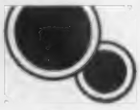
You can't cut a pipe without leaving a burr. When unreamed piping is coupled up, burr retards flow at every joint. Waste materials also collect at these points, steadily cutting down the capacity of pipe, the size of which was originally chosen with careful consideration to a required amount of flow.

The percentage of area loss in unreamed pipe varies from over 50 per cent in 1/4" pipe to 15 per cent in 1 1/2" pipe, before any foreign matter starts to collect.

This can easily be prevented by using the Mueller Ratchet Pipe End Reamer. It is a good tool. Exceptionally strong and efficient. It is easy to operate and the work can be done quickly.

Order from your jobber

Specify G-10675, for reaming pipe up to 3 inches, or G-10576 for reaming pipe up to 1¼ inches.

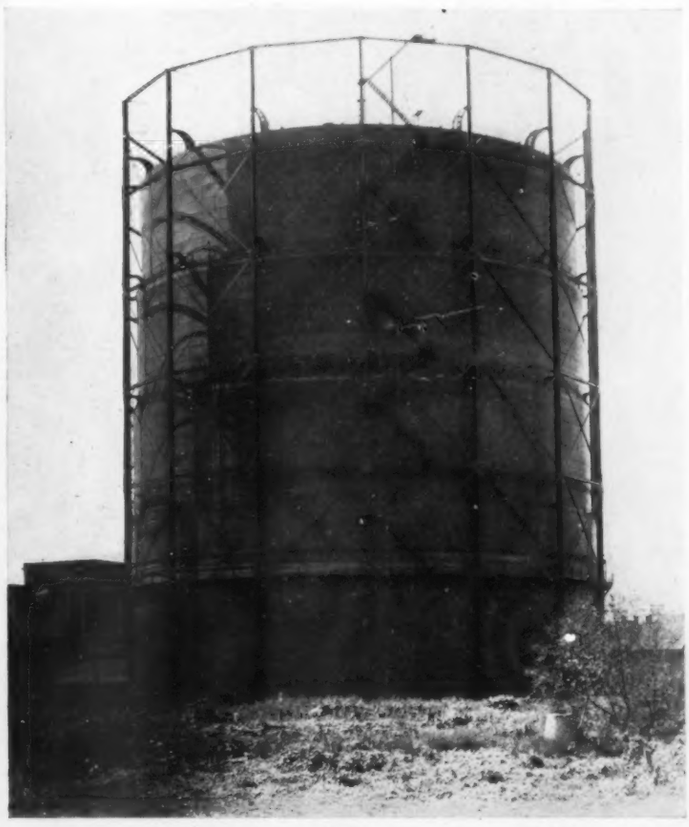


MUELLER CO. (*Established* 1857) **Decatur, Ill.**
Branches: New York, Dallas, San Francisco, Los Angeles
Canadian Factory: MUELLER, Limited, Sarnia

MUELLER

STURDY

CONSTRUCTION PAYS

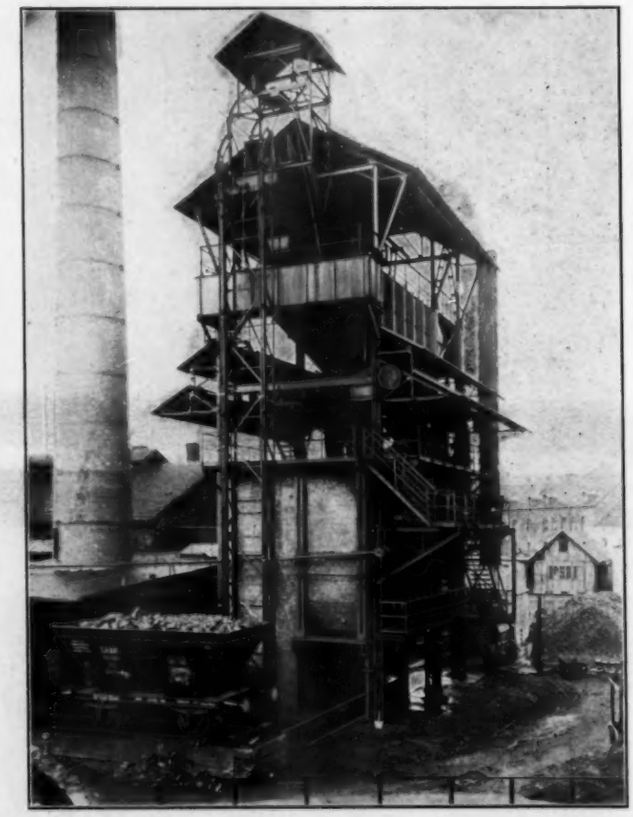


2,000,000 Cubic Foot Gas Holder for the Pennsylvania Gas and Electric Co., York, Pa.

INTEGRITY
FAIR C-KCo DEALING
SERVICE

CRUSE-KEMPER CO.
AMBLER, PA.
ENGINEERS & CONTRACTORS
BUILDERS OF STURDY GAS HOLDERS
PURIFIERS, SCRUBBERS, CONDENSERS, TANKS, ETC.

"INDUGAS"
VERTICAL CHAMBER OVENS
(With Water-sealed Drop Door)
Minimum Labor - - Low First Cost



The annual operating reports of the Association of Swiss Gas Plants disclose that the "INDUGAS" ovens produce the largest yields of gas per ton of coal.

The following table shows the actual average yields from coal containing less volatile matter than the average American coal:

City	Time	Yield cu. ft. per net ton	Heating value B.t.u. (gross)
Baden, Switzerland	4 years average	14075	560
Olten, Switzerland	2 " "	13317	570
Friedrichshafen, Germany	4 " "	16045	515

There's a Reason

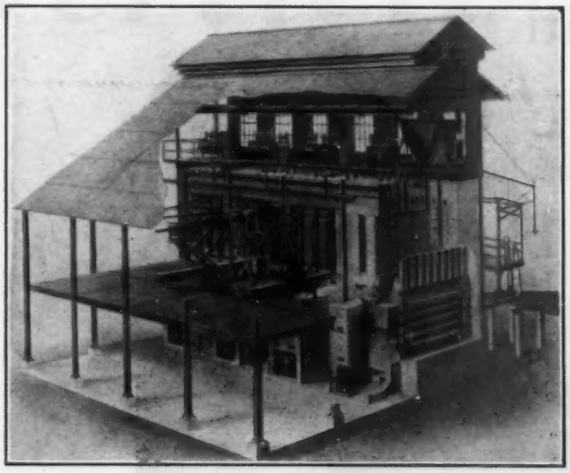
Full information, layouts and estimates gladly furnished

CARL STILL CORPORATION

114 LIBERTY STREET, NEW YORK

"IECO" *Modern Coal Carbonizing Plants*

"IMPROVED" Horizontal Gas Ovens



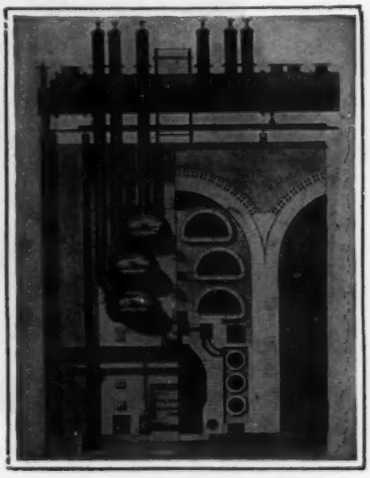
"IMPROVED" Horizontal Gas Ovens are rapidly winning favor in the plant of medium sendout—a fact readily explained when a unit consistently surpasses in performance the expectation of its purchaser and the promises of the builder.

The illustration shows plant of ½ million cu. ft. daily capacity IMPROVED TYPE HORIZONTAL GAS OVENS, featuring high yields of gas, coke, tar and ammonia of uniform and superior quality. Long, efficient operating life, low maintenance costs, minimum labor requirements and moderate initial investment.

DOHERTY Economizer Coal Gas Benches

STOP-ENDS, THROUGHS AND INCLINED TYPES

If your benches are not DOHERTY FUEL ECONOMIZER BENCHES—compare what you have with the DOHERTY bench. The long life of the Doherty Economizer benches—the freedom from expensive time-taking repairs—has been the object of much comment among gas engineers throughout the country. The reason for this record is no secret—it is the result of experience of years in the design, manufacture and building of equipment to meet the exacting needs of the gas industry.



The UNIT TYPE HORIZONTAL GAS *and* COKE OVENS

This system of ovens was developed primarily to meet the requirements of plants having a daily capacity of 150 M. cu. ft. and upwards. They are extremely economical in operation and require the minimum of labor.

Write us for Special Bulletin and full information regarding plant of Unit Type now operating

THE IMPROVED EQUIPMENT COMPANY

24 STATE STREET *Engineers-Builders* NEW YORK CITY

Carburetted Water Gas Apparatus

with

Automatic Control

(*Patented June* 10, 1924)

and Waste Heat Boiler

THE OPERATING FLOOR IS MADE OF BRICK LAID IN STEEL TEES.

THE GAS MACHINERY COMPANY

CLEVELAND, OHIO

GLOVER-WEST *Vertical Retorts*

A
28 DAY TEST

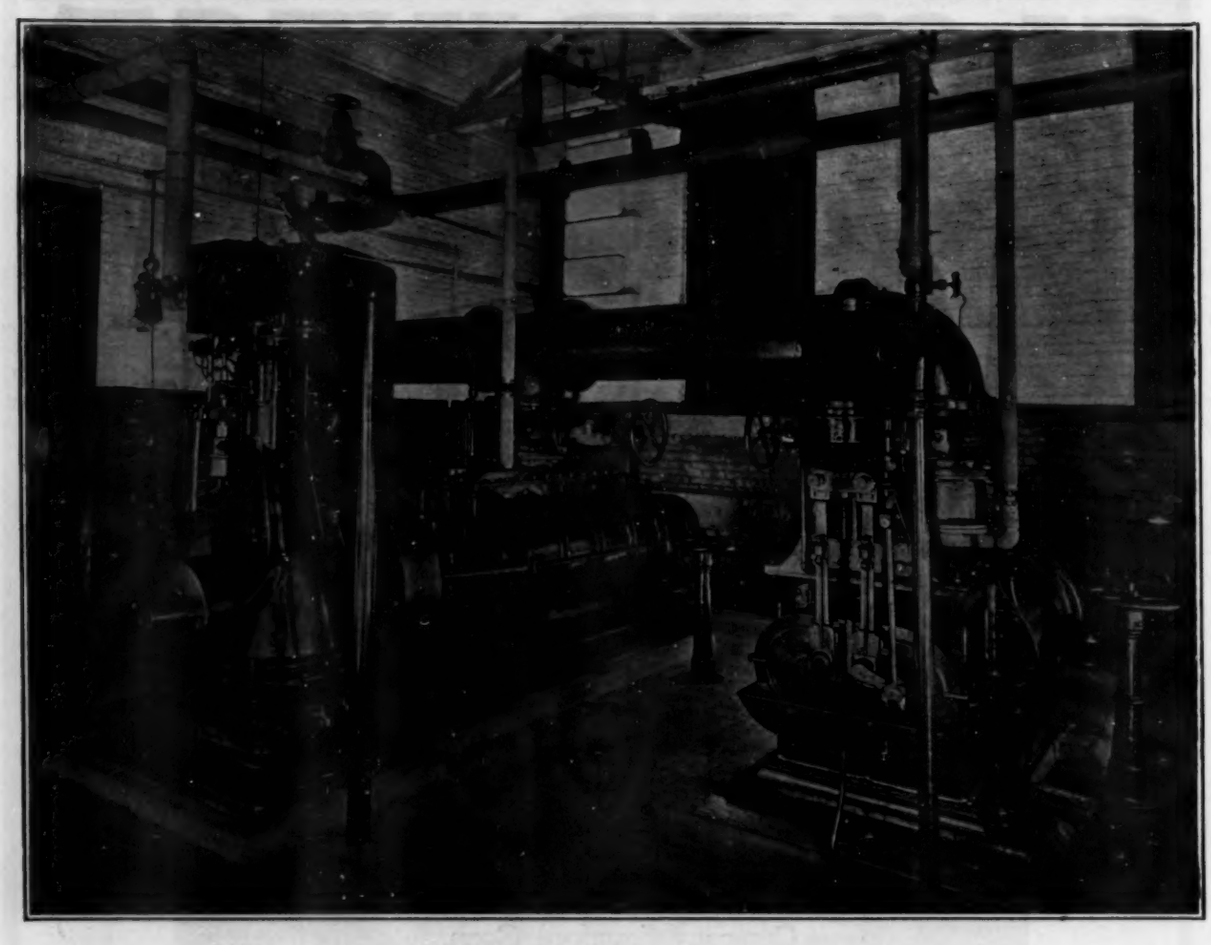
A SUBCOMMITTEE of the Carbonization Section of the American Gas Association completed for the 1927 Convention a series of plant tests inaugurated in 1926. Full particulars can be seen in the Carbonization Committee reports for these two years, and should be studied by all contemplating plant extensions.

The Glover-West plant at Stamford, Conn., was tested in 1927. See:

CARBONIZATION COMMITTEE—APPENDIX 1
REPORT OF 1927 SUBCOMMITTEE ON PLANT TESTS
Heat and Material Balance on the Glover-West Continuous Vertical Retorts of the Stamford Gas and Electric Company, Stamford, Conn.

The heating arrangements of Glover-West benches with their control facilities, and the ease with which the speed of coal through the retorts can be adjusted, enables operators to get the maximum yields possible from any coal used, without disturbing labor time schedules or sacrificing efficient fuel results.

WEST GAS IMPROVEMENT CO.
Builders of Coal Gas Plants
441 Lexington Ave. New York.



Unusual Performance

ROOTS

On the right is Roots old No. 4 Exhauster installed in this West Coast booster station in 1891. Note the old style construction with the steam engine mounted on the headplate.

On the left is shown Roots No. 8 Exhauster installed in 1926.

Both Gas Pumps are boosting on the same line and both give excellent service in spite of the fact that the old No. 4 has been running for some time in excess of its rated capacity.

Certainly, for the ordinary Gas Pump, but just another instance of the service that may be expected from a Roots Gas Pump.

Oversize shafts, extra heavily ribbed cases, adjustable self-oiling bearings, unusually sturdy gears, exact clearances and the absence of internal friction are a few points which mean added service from Roots Gas Pumps.

Your plant deserves the best. You get it when you specify Roots Gas Pumps, Roots Meters, Roots Vacuum Pumps, Roots Liquid Pumps, Roots Blowers, Roots Gates, Valves and Couplings.

(*Write for Bulletins*: 1071, 1081, 40-B1 *and* 31-B2.)

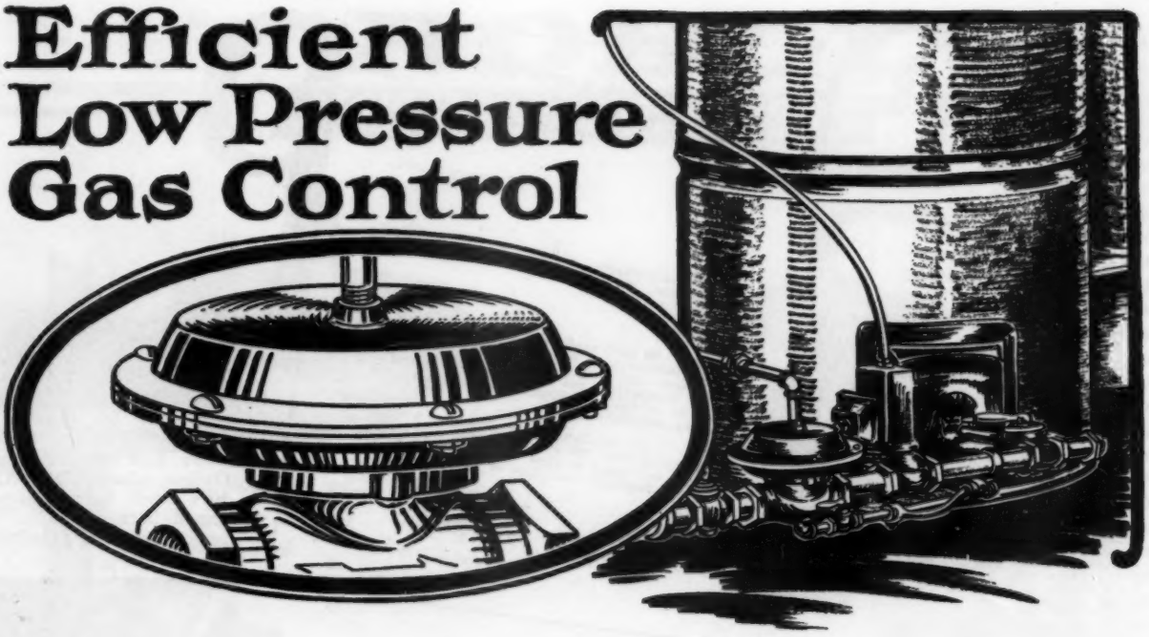
The P. H. & F. M. ROOTS CO.

CONNERSVILLE, INDIANA

CHICAGO
Peoples Gas Building

NEW YORK
120 Liberty Street

Efficient Low Pressure Gas Control



ADVANCED ENGINEERING, plus an actual knowledge of today's needs in the low pressure field, has placed Reynolds Low Pressure Governors far ahead of competition. Accuracy that is only rivaled by expensive electric controls—economy first at time of purchase, and later during operation—both are offered in Reynolds Low Pressure Regulators. This unit is characteristically Reynolds in operating simplicity and long dependability.

Many manufacturers have found it profitable to add this unit as standard equipment. This Regulator, operating on an inlet pressure up to one pound, will work from one-half inch to six inches outlet pressure. Our staff will be glad to co-operate. Write.

Reynolds Products

for all kinds of Pressure Reduction—for either artificial or natural gas.

Governors—
- Intermediate Pressure
- Triple Outlet
- Holder
- Toggle Type Street

Regulators—
- High Pressure Service
- Low Pressure Service
- Intermediate Pressure
- High Pressure Line
- Single and Double District Station

Valve—
- Automatic Quick-Closing Anti-Vacuum

COMPANY MEMBER OF AMERICAN GAS ASSOCIATION

Reynolds Gas Regulator Company
Anderson, Indiana

Established 1892

Representatives: EASTERN SERVICE CO., Boston, Mass.
F. E. NEWBERRY, Avon, N. J. THOS. C. CORIN, Detroit, Mich.

ADAMANT DISTRIBUTORS

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Illinois, Chicago,
Wm. E. Dee Co.
Indiana, Fort Wayne,
Harry A. Neff
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Walrath Supply Co.
Kentucky, Louisville,
E. D. Morton & Co., Inc.
Kentucky, Paducah,
Henry A. Petter Supply Co.
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Woodward, Wight & Co., Ltd.
Louisiana, Shreveport,
Woodward, Wight & Co., Ltd.
Maryland, Baltimore,
Codd Tank & Specialty Co.
Massachusetts, Boston,
Waldo Bros. & Bond Co.
Massachusetts, Springfield,
Oscar F. Carlson
Massachusetts, Worcester,
Waldo Bros. & Bond Co.
Michigan, Detroit,
H. D. Edwards & Co.
Minnesota, Duluth,
Duluth Builders Supply Co.
Minnesota, Minneapolis,
Northern Machinery & Supply Co.
Missouri, Kansas City,
Union Material & Supply Co.
Missouri, St. Louis,
Handlan-Buck Mfg. Co.
Nebraska, Omaha,
American Machinery & Supply Co.
New Jersey, Atlantic City,
Oil Burner Service Co.
New York, Buffalo,
The Curtis Supply Co.
New York, Mohawk,
American Hard Wall Plaster Co.
New York, New York,
C. C. Phillips, 110 W. 34th St.
New York, Rochester,
American Clay & Cement Corp.
Wm. Summerhays & Son
New York, Rome,
American Hard Wall Plaster Co.
New York, Syracuse,
Paragon Plaster Co.
New York, Utica,
American Hard Wall Plaster Co.
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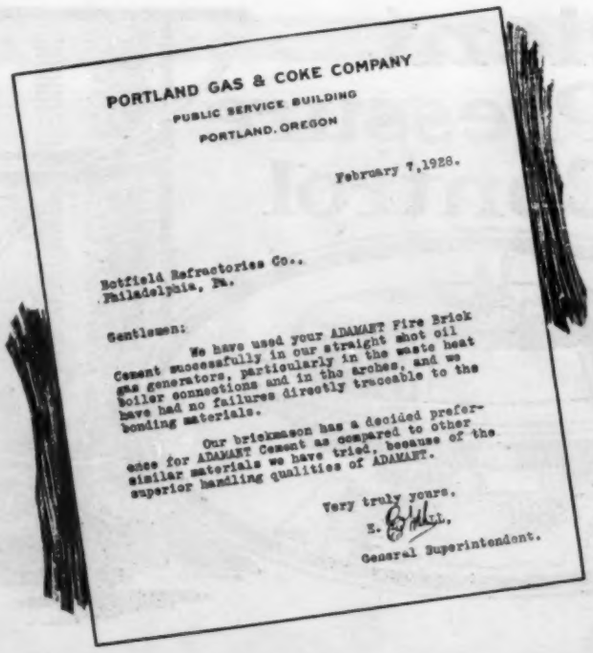

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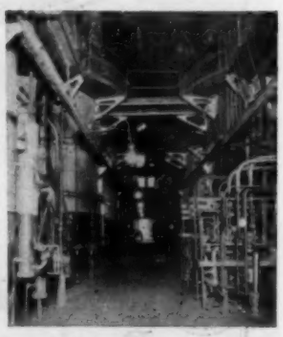

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HENRY M. RILEY, *Editor*

The Community of Interest

THE DALLAS meeting of the Natural Gas Division of the American Gas Association affords the first opportunity for the entire gas industry to welcome the natural gas production group under the auspices of our common association. It is logical that there should be such a session at which the problems peculiar to natural gas production and transmission should be considered, just as it is logical that there should be an annual production conference of the manufactured gas engineers, an annual distribution conference, and other meetings for the specialized groups among our number.

SUCH SEPARATE meetings do not indicate any lack of solidarity or any lack of common interest among our membership. They merely show that we are peculiarly fortunate in having in the American Gas Association a complete and comprehensive organization to care for all phases of the public-utility gas business. The federation of such groups and the co-operative effort of all divisions and sections of the Association are making for the highest efficiency in the service of the entire profession and of every company affected by the gas business.

MANY DIFFERENCES are found between the problems of natural gas production and those of manufactured gas production. But these differences are no greater than the differences between the problems of manufacture and those of distribution, or between the problems of home service and those of the industrial-gas division of any company. The job of all is the production, transmission and utilization of gas with maximum efficiency for perfect service to the public with profit to the stockholder. Those who happen to distribute and sell natural gas to the public have problems no different in any particular from those of the manufactured gas companies, except in the field of production. The community of interest in matters financial, technical and commercial is evident. It is, indeed, a happy day that sees all of the units of the Association working together so harmoniously toward the attainment of our major common objectives.

Clark N. Fogg

Taxes as an Element In the Cost of Gas

NO WISE MAN expects entirely to escape taxation. But every wise man rightly does object to paying more than his share or having imposed upon him an inequitable form of tax. One's best means for preventing such unfair effect is a knowledge as to the law and the current interpretation of the law fixing taxes upon one's own business.

Not only natural gas producers, but also all public utility companies using natural gas for city supply find Federal taxation a significant factor in their total cost of gas. For the benefit of that constantly growing group of company executives American Gas Journal presents in this isue a summary of the fundamental principles determining this class of taxes.

The Federal government in applying its tax measures does not seek to collect the maximum possible tax in every case. It rightly seeks rather equitably to apply the law protecting the individual taxpayer against excessive payment quite as sincerely as protecting the government against failure to collect taxes rightly due and payable. Many of the difficulties which have arisen in natural gas tax adjustments have come from a failure to understand either the technology or the law. The Bureau of Internal Revenue, realizing that it must study the technology involved, has used experienced engineers for handling its problems with the industry. The industry in return should take greater pains in the understanding of the law and in co-operating with the bureau in prompt and equitable enforcement of the law's provisions.

No brief article could possibly cover all of the details, but the article in this issue by Mr. Sievers does give us a much improved perspective on the general problem. From it the gas company executive can readily advance to a more detailed understanding as need arises. A careful consideration of the general principles and practices described by Mr. Sievers is strongly urged upon all company men whose business is affected by these tax problems.

Does a Banker Make a Good Furnace Man?

WE SHALL NOT PRETEND to answer this question categorically, because the right answer would undoubtedly be—Sometimes, yes; and sometimes, no. We will, however, draw attention to a Peoples Gas Club News' sermonette which was preached cleverly, though perhaps unconsciously, in a recent issue which referred to a gas-fired heating installation for a small branch banking house.

> Seldom, if ever, do the employees of the bank find it necessary to visit the boiler room. The steady supply of fuel and the mechanical devices which operate the gas-fired boiler leave the bank force free to engage in the business for which they are organized—that of caring for the banking needs of the neighborhood.

It is not a bad idea to sell gas for heating so that the banker may stick to his banking, and "the shoemaker stick to his last."

Especially for industrial and office building heating, such sermons should be preached, both in season and out of season. And out of season means particularly during the summertime, which is usually the only period of the year during which it is practical to tear out and rebuild such industrial heating units.

New Competitive Conditions As Applied to Gas Sales

A NEW PRICE LAW is now in effect giving the low-cost producer undisputed opportunity for determining the price at which a commodity can be sold. This is a basic and far-reaching conclusion very effectively presented recently by Charles F. Abbott, executive director of the American Institute of Steel Construction. Mr. Abbott was speaking primarily to the industrial man interested in the manufacture and distribution of commodities on a competitive basis, but his remarks are equally pertinent and important to the public utility executive whose primary task is the successful merchandizing of energy in competition with other energy resources.

In the pre-war period economists claimed that with productive capacity lagging behind demand, as was then the case, the producer with the highest operating cost generally fixed the price at which a commodity was sold. Now it is generally recognized that there is an excess of production capacity above the consuming requirements of the country for many, if not most, lines of commodities. Under these latter and now-prevailing conditions there is a buyers' market. And in a buyers' market the price is fixed by the low-cost producer, who is able because of his low cost profitably to undersell his competitors and thus market his output promptly.

The competitive energy resources of the country—gas, oil, powdered coal, electricity—are potentially available in quantities far exceeding in the aggregate the total consumer demand. The energy purchaser naturally seeks to select that energy supply which

gives him lowest over-all cost of use with reasonable convenience and satisfactory effectiveness. Fortunately the city gas man can meet all requirements of convenience and efficiency, and very frequently stand first in lower over-all cost. But this strategic position, permitting rapidly expanding markets for gas, can be maintained only with the keenest attention to maintaining the position of low-cost producer.

In planning budgets for research, for industrial sales development, for new plants or plant improvements, and for other constructive progressive efforts of his company the executive must see farther ahead than the immediate balance-sheet or dividend effect. He must study all such expense or investment features with a view to the long-time effect upon his position as low-cost energy purveyor, meeting constantly more intense and more intelligent competition among the other energy supplies. It is futile to assume that gas, although a natural monopoly in any community, is free from competition. It actually meets competition in the most severe and most insidious form.

The Gas Industry And the "Band Wagon"

DARWIN has very aptly said, in effect, that the failure of an organism to accommodate itself to a changing environment means death to that organism. Applying this observation to the case of a business organization, we might aver that the failure of such an institution to properly interpret and follow the changing field which it serves spells decline for the same.

In the gas as well as other industries there is now prevalent a growing admonition to study its changing market conditions, such advice sometimes being accompanied with a hint that unpleasant results will ensue in the event of failure to act accordingly.

It is altogether proper to spur on individuals to the end that they will "pitch in" and keep their industry abreast of the times. But, at the same time, such individuals should not work themselves up to the point that they will grow panicky by way of assuming that conditions are changing so rapidly that they must perforce be supermen to keep pace with the general business procession.

All will admit that the affairs, business or otherwise, which affect human beings are continually in a state of flux. Further, the attendant changes do not take place overnight, as a general thing. The modish woman did not go to bed one night with ground-scraping dresses in fashion and awake on the morrow with such habiliments elevated to knee-length. In turn, the gas industry did not close its doors one Saturday afternoon, with gas lighting in full flower, only to open them on the following Monday and find this method of illumination almost entirely supplanted by the electric incandescent bulb. Most changes have, fortunately, come gradually and in the case of the gas industry, we believe, its members have been cognizant of such changes.

If there has been any slowing up of increase in gas consumption in a certain direction it is most likely that such lack of acceleration has been due to causes beyond the control of the industry. However, in looking back, there is abundant evidence that the proper, and subsequently effective efforts have been made to compensate for any particular weakening.

Generally speaking, it is only the attribute of lack of effort—laziness—that causes an institution to fall behind the van of progress. And gas men should draw from any preachment to get on the "band wagon" the lesson that unceasing effort or hard work mixed with the requisite amount of gray matter is the price we must pay for our place in the sun. Above all, they should not get panicky and assume that things and conditions are changing overnight, because, decidedly, such is not the case.

New Legal Stabilization of Public-Utility Securities

SEVERAL States have legalized certain bonds issued by public-utility companies for investment of savings banks under their jurisdiction. With every such action there has immediately been a tendency to increase the market price of the bond because of the new market opened to it. As a result there has been a very happy effect upon the opportunity for securing money for worth-while public-utility improvements, because every such increase in bond prices sooner or later reduces the net cost of the money to the utility company affected.

There does not seem to be sufficient appreciation of the importance of this among utility executives. Big banking and investment houses are frequently emphasizing the trend. But the utilities themselves have not done their part in speeding up the movement. It is important, therefore, that bonds issued for new developments or for refinancing be so planned under mortgages that they will pass the test for legality as securities available to savings banks, as well as insurance companies, trust funds, and the like. The great benefits coming to the management through such precautions are obvious, when noticed; but unfortunately they are still frequently unnoticed.

A word to the wise....!

A Monument to Good Public Service. New Tower Building, Consolidated Gas Company of New York

Pension Systems

By J. J. Berliner, B.C.S.

Senior Member of the National Accounting Systems

NE of the most complicated problems confronting industrial employers at present is that of the pension system. Few of the industrial pension plans in the United States today are so financed that they are likely to remain solvent without refinancing or modification.

In the case of many municipal and other public service pension plans, failure to count the cost carefully has already resulted in bankruptcy of the pension systems, either actual or constructive. Indeed, it is hardly too much to say that the history of pension schemes has been a record of mistakes or failures. Even the elaborate Carnegie Foundation plan was forced to undergo a radical reorganization only a few years after it was started.

Before taking up the question of how a pension system shall be established, it is imperative to consider whether it should be established at all. Until a satisfactory answer can be given to the latter question, there is little occasion to discuss the question of method.

Many of our gas companies now have in force some sort of pension system or its equivalent. Moreover, there is a growing interest in the subject, which is, incidentally, one requiring careful study for its proper handling.

It might be said that back of any properly functioning pension system is a carefully worked out fabric which is both mathematical and financial in its nature.

Although the present article is somewhat general in its scope, it is felt that gas company executives and others will find much of interest therein. In an early issue of the American Gas Journal there will appear a supplement to the present article which will deal with the subject from the gas company standpoint exclusively.

Broad Object of Pension Systems

Among the more important motives which lead industrial employers to adopt pension systems are:

(a) A desire to provide for the old age of dependent, superannuated employees.

(b) A desire to reward employees who have rendered unusually long service.

(c) A desire to increase efficiency, first, by the elimination of superannuated or incapacitated workers on a humane basis, and, second, by stimulating the good-will and effort of the active force.

(d) A desire to hold the worker on the job, thereby reducing labor turnover.

(e) A desire to exercise a disciplinary control over workers in respect to strikes and in other ways.

In some pension plans all of these motives are present; in others, only a portion.

The broad objects of pension systems, as above enumerated, will now be examined.

Pensions as a Means of Providing for Dependent and Superannuated Workers.—A large number, perhaps a large proportion, of industrial workers either cannot or do not make adequate provision for their old age. When such workers reach a stage of superannuation the employer is forced to the alternative of throwing them back on society, with the knowledge that they will become objects of charity, or of himself making some provision for their remaining years. This practical fact has been an important and probably the controlling consideration in the establishment of industrial pension systems of the day. From humanitarian motives the employer is not content summarily to dismiss such superannuated workers after long years of service. Moreover, he often hesitates to do this, on the practical ground that such a policy may have an unfavorable reaction upon the larger body of employees still continuing in the service.

Pensions as a Reward for Long Service

The conception of pensions as a reward for service takes no account of the necessities of the worker, but, ostensibly at least, pensions alike all who, whether self-supporting or dependent, have rendered a given length of service to the establishment or who have fulfilled certain prescribed conditions. Furthermore, it does not necessarily require continuance in service until the employee actually is superannuated. Under many plans an employee who commences work at an early age may retire on pension before he can really be termed old if he has served the required number of years.

As a straight reward of service most pension systems are grossly inadequate. The percentage of workers who go on the pension roll usually is only a small fraction of the total force, or even of those remaining with a company for long periods. Oftentimes it is almost negligible. Moreover, such systems easily become highly inequitable as between individual workers. An employee who happens to have completed, say, twenty or twenty-five years of service may get a pension, which may be thousands of dollars, while another worker, perhaps more efficient and more faithful, but who has just failed of completing the required period of service, may get absolutely nothing. If long service is entitled to a reward, then it would seem that a system which pays a large benefit for, say, twenty years' service, but pays nothing for nineteen years' service, is inherently defective.

A further objection often advanced against the "reward-of-service" idea, as actually operative in

many pension plans, is that it may put a premium on inefficiency by keeping men in service, the retirement of whom should be the primary purpose of a pension system. For example, a humane executive may be tempted to retain on his force a worker who needs only one or two more years of service to entitle him to a pension, even though the worker has become distinctly inefficient. Paradoxical as it may be, a pension system may thus defeat what is perhaps its most important aim. On the other hand, a heartless factory executive may dismiss an efficient man approaching the retirement age, in order to save the company the cost of later maintaining him on pension.

Still again, it has happened that where the cost of pensions was rapidly mounting, the terms of the plan itself have been changed, with the result that many workers have been deprived of the pension benefit to which they had been looking forward.

Pensions as a Means of Increasing Efficiency.—This is one of the primary motives which have led to the establishment of pension systems. A pension system, it is urged, tends to relieve the employer of any compunction which he may feel over the dismissal of a worker grown old in his service and now without means, and thus more readily enables him to increase the efficiency of his working force by weeding out those no longer able to perform their allotted tasks. The "drag" of such workers upon production is well known to all industrial executives.

Allotment of Lighter Tasks

It is extremely wasteful to permit a superannuated worker to continue at a task where his inefficiency means a lower output not only for himself, but for all others associated with him in the operation. In some cases, notably in work of a "line" character, it is imperative that such a worker shall not be retained, at least in the particular position. Many establishments have endeavored to meet this difficulty by finding other tasks of a lighter or less exacting character, to which such older workers are assigned. But the opportunities of this sort often are far too few to take care of the increasing number of superannuated workers. The employer has, therefore, resorted to the expedient of a pension system in order to enable him to dismiss such workers without raising any questions of injustice or of adverse reaction on the other employees.

Pensions as a Means of Increasing Efficiency of the Active Force.—This is also one of the primary motives which have led to the establishment of pension systems. In distinction from increasing efficiency through elimination of the superannuated, it is often claimed that pension systems increase the efficiency of the active force. As already pointed out, the very fact that superannuated workers are thus provided for may exert a favorable influence upon the active members of the force and increase their good-will, and thus perhaps their efficiency as well. Again, to the extent that a pension system relieves the worker during the stress period of life of anxiety over his declining years, he is, it is urged, in better condition, mentally and physically, to perform his daily tasks.

What an Analysis Shows

That pension systems do not materially increase efficiency of the active force was the conclusion reached by the Industrial Bureau of the Merchants' Association of New York, based upon a study of private pension systems made in 1919. Analyzing the replies of fifty-nine employers with respect to the effect on efficiency, the report in question said:

"That failure to produce increased efficiency can be traced to the fact that, in general, pension systems appeal only to employees who have grown old in their present employment. These employees usually constitute a relatively unimportant part of the entire working force and their habits of efficiency, like all other habits, have become more or less fixed."

In any event, the effect of a pension system on the efficiency of the active force will depend largely upon the terms of the plan, partly upon its certainty from the viewpoint of the employee, partly upon the character of the employee, and very largely upon his age. That it will not be an important factor in the case of the younger workers is practically certain.

Pensions as a Means of Reducing Labor Turnover.—A hope that pension systems will reduce the enormous labor turnover so characteristic of modern industry undoubtedly has been one chief reason for their establishment. Yet on this point it is possible to say with assurance that such systems are disappointing. The testimony of nearly all employers who have introduced pension systems is that the effect upon labor turnover in the case of workers under middle age is small, and often negligible. For workers nearing the retirement age the prospect of pension apparently is a decided incentive to continuance in the service. But the very fact that workers have remained in a given establishment until such age is of itself evidence that they would be likely to continue if there were no pension system. There is the further practical consideration that the worker past middle age has sufficient inducement to continue merely because of the difficulty involved in finding a new position. The reluctance of industry to employ men over fifty years of age, or even somewhat under that age, is proverbial.

Increased Efficiency,—the Impelling Factor

To summarize briefly the preceding discussion it may be concluded that a private employer is under no compelling moral obligation to provide for the support of his superannuated employees in their old age. Nor can a pension system primarily be regarded as a method of rewarding faithful service, although this purpose may be present. It may further be concluded that the prospect of reducing labor turnover, or of exercising disciplinary control over workers, does not promise results of sufficient importance to warrant the expense of a pension system, while the latter purpose is in many respects inherently objectionable.

It follows, therefore, that the one controlling justification of a pension system from the employer's standpoint is that it will increase efficiency, primarily through elimination of superannuated and incapaci-

tated workers, and possibly by building up a larger amount of good-will and interest among the active force. Although some of the other purposes discussed are important, they are incidental to the primary object of increasing efficiency.

While in many cases it is doubtful whether such efficiency is attained, this failure may be due to imperfections in the plan or to errors in administration. A sound retirement system should facilitate the problem of dismissing superannuated and dependent workers. There may also be some increase in the efficiency of the active force, but the evidence on this point is by no means convincing.

To the extent that a pension system does actually increase efficiency it merits most careful consideration.

Increase in efficiency, however, is not in itself a complete justification of a pension system. Not only must a pension system be effective, but it must be inherently sound and equitable, and must not produce consequences injurious to the worker or to society as a whole.

Reasons for Failure of Pension System

The reason why industrial pension plans in many instances have not worked out successfully in practice is that executives responsible for their construction have not taken into consideration the fact that the number of employees qualifying for pensions during the first years the plans are put into effect is referable to conditions existing at the beginning of the qualification period, say, 25 or 30 years previously. The numbers of pensioners so qualifying is not indicative of the great payroll expansion that has taken place in the meantime.

Initiators of pension plans have frequently overlooked these facts, i. e., that an increasing number of future pensioners were added to the list of employees each year, so that maturities will show a considerable annual increase, and that, if pensions are based upon a percentage of the salaries paid over specified periods, the amount of annual wage has almost invariably increased. The weakness, then, of most industrial pension plans is the neglect to analyze the circumstances thoroughly and to provide for the maturities of additional groups of employees each year. A curve drawn on a chart descriptive of the increase in the amount of pension payments would show sharp elevation after the first few years. This rate of increase is so marked that the management begins to realize that something is radically wrong with their pension policy. A brief study reveals that a continuance on the basis as adopted will become practically impossible. Therefore, the plan must be abandoned or revised.

Experience of Railroad and Industrial Corporations

The actual experience of two representative American companies over recent years will serve to point out several interesting aspects of the problem. The first illustration is that of the Baltimore and Ohio Railroad Company, which has had a plan in operation since 1884. The actual payments to pensioners have been as follows:

1885	$7,354	1905	$73,322
1886	18,125	1906	82,979
1887	20,669	1907	95,310
1888	23,438	1908	112,356
1889	24,160	1909	129,356
1890	25,100	1910	157,273
1891	27,894	1911	174,746
1892	22,381	1912	193,908
1893	31,954	1913	212,645
1894	34,457	1914	234,292
1895	34,800	1915	266,538
1896	34,726	1916	295,652
1897	46,346	1917	312,623
1898	50,242	1918	321,247
1899	52,117	1919	331,443
1900	29,026	1920	352,390
1901	55,830	1921	380,013
1902	63,143	1922	407,786
1903	64,730	1923	435,502
1904	67,199	1924	456,885

After forty years of operation, there was no evidence that the peak had been reached. In fact, it was almost certain that the annual increase would continue for many years. The number of eligible employees in 1884, at the time the plan began, was 16,848, and the corresponding number of eligibles in 1924 was 54,706. The number of pensioners in 1915 was 1,036, or 47 per cent of the 21,722 who were on the eligible list 25 years previous, or in 1890. At the same ratio (4.7 per cent of 54,706 eligible employees in 1924), the number of pensioners in 1949 (twenty-five years after 1924) will be 2,571, as compared with 1,290 on the pension list in 1924.

Steel Corporation Data

The second illustration is that of the United States Steel Corporation. This plan has been in operation since 1911 only, and is somewhat affected by a change made in 1915, whereby the age limit was increased from 60 to 65 years, and the service period from 20 to 25 years.

Again, it is clearly evident that constantly increasing pension appropriations will be necessary for a great many years to come. As in the preceding case, it is significant to note that the payroll of the Steel Corporation has grown from 196,000 in 1911 to 249,000 in 1925.

Year	Pensioners	Annual Payment	Years of Service	Monthly Pension
1911	1,606	$281,457	30.55	$20.90
1912	1,843	358,780	29.51	20.40
1913	2,092	422,815	29.84	21.30
1914	2,521	511,967	29.89	21.00
1915	3,002	659,389	29.09	20.85
1916	3,013	711,130	33.23	25.00
1917	2,933	712,506	32.24	22.65
1918	2,861	709,059	34.77	27.35
1919	2,940	733,707	32.31	26.75
1920	2,969	779,766	34.37	34.35
1921	3,437	947,879	34.90	38.60
1922	3,886	1,266,661	35.40	40.65
1923	4,054	1,448,112	34.50	43.25
1924	4,478	1,683,920	35.20	43.80
1925	5,084	2,068,652	35.10	45.10

The Correct Basis for Pension Systems

The reason for failure of numerous pension systems to operate successfully and a suggestion for the true basis and correct principles of such plans will be obvious if we isolate the case of a single pen-

sioner, who, we will assume, has been in the employment of a company for thirty years and who has reached the age of 65 years. If an agreement has been negotiated with an insurance company to carry the pension payments after the date of this employee's retirement, the agreement has been worked out by the computation of annuities. In other words, it would be necessary to determine what annual premium must be paid from the date of agreement, say 30 years before the expiration of the pension qualification period, fixed by the insurance company after computing the average life expectancy and the compound interest earned by the premiums during 30 years. Now if the corporation wishes to put into effect a dependable pension plan, it must proceed along lines exactly analogous to these followed by the insurance company. An amount must be estimated for annual appropriation by way of reverse (corresponding to the premium), which, compounded, will carry the pensioner from the time of his retirement until his death. The most important element contributing to the solution of the problem is the interest. Analysis will demonstrate that for every dollar appropriated by the corporation as reserve, almost two dollars will be earned by compounded interest. This plan has the advantage of flexibility in respect to fluctuations in payroll, since an increased annual appropriation corresponding to the increase in payroll may be made at any time.

In the case of a large steel company, when the pension plan was adopted the complete liability for the amount of pension for each employee was set up on the books, although no sinking fund has been set aside to take care of maturing pension obligations. Although the recommendations of pension authorities that such reserves should be established have been considered, the pension committee and the controller agree that this is not essential in view of the very large earnings of the company.

Results of American and European Experience

In view of the general lack of appreciation among the industrial executives of the ultimate cost of pension plans, it may be of interest to offer some observations, based partly upon the limited American experience and partly upon the longer European record.

1. The total pension cost for any one year will not reach a maximum until the youngest employee at the time of the beginning of the plan reaches an extreme old age. In other words, the annual cost, apart from any increase in the number of employees, will show a continued increase for some 60 or more years after the origin of the plan. This is due partly to the longer service records of the younger men who eventually reach the retirement age, and partly to the effect of higher wage scale as the business grows.

2. At the maximum, the pension cost will be about 10 per cent of the annual payroll, assuming that present tendencies in the rate of turnover will continue. Some municipal pension funds which have been in operation a long time require an annual appropriation in excess of 20 per cent of the current salary list. The present experience of American pension plans, whereby a yearly appropriation of about 1 per cent of the annual payroll is adequate to meet current requirements, will most certainly prove an unreliable criterion in the future.

3. An annual appropriation of 1 per cent of the payroll will probably prove sufficient to pay all current pensions and provide an adequate fund for the future, including allowance for growth in number of employees and wage increases, if it is made effective when the business begins. But as most pension plans are started after the concern has been in existence for a certain period, the 1 per cent appropriation takes care of the present and future only. The accrued liabilities of the past must also be taken into consideration if the reserve fund is to start on a solvent basis. An initial reserve appropriation of about 50 per cent of the current annual payroll will be necessary for this purpose.

4. An annual appropriation of about 2¾ per cent of the payroll is a fair estimate of what is necessary to meet current pension requirements and build up a fund for future needs in the case of companies which have been established for many years.

Establishing a Dependable Pension System

In the first place, a comprehensive analytical survey by an actuary or statistician is necessary to determine the rate of increase in pension liabilities from the beginning of the pension qualification period to the date of inception of the plan. This rate must be projected into the future to determine the approximate rate of prospective increase. The first years that a pension plan is operated show a comparatively low pension cost relative to the amount of payroll. As the pension plan is applied year after year, the increase in numbers of employees qualifying for the position is relatively much greater than the increase in payroll. It is apparent that provision must be made at the inception of the plan for taking care of this increase in the number of pensioners. Various plans have been suggested, but none of them, excepting those which have been prepared in accordance with insurance methods, have been effective.

In order to devise an accurate, mathematically scientific system for a group, it is necessary to consider the factors of labor turnover and life expectancy at the age of retirement, in the light of the insurance mortuary tables. Although it is impossible to figure turnover with a degree of certainty that could be relied upon in respect to mortality percentages, a company during the first year of existence should establish the practice of setting aside a sufficient pension reserve and of permitting it to increase at compound interest, to provide for all eventualities, including turnover.

If a corporation, through lack of understanding of sound pension procedure, has gotten into deep waters, it will at least be possible to apply correct principles in the development of a new or revised plan. Usually a three phase problem is presented, embracing qualified pensioners, those employees whose qualification periods are in process, and employees who will qualify in the future.

Office Building of Memphis Power and Light Company Striking results on heating efficiency have been obtained during three years' use of gas-fired **boilers in this building**

Heating a Small Office Building With Gas

Memphis Company demonstrates satisfactory control methods and tests installation in its own quarters

By W. A. Dunkley

Superintendent, Gas Department, Memphis Power and Light Company

IN 1925 the Memphis Power and Light Company purchased for its own use a five-story and basement stone office building having a total floor space of approximately 41,000 square feet. This building was entirely remodeled internally to adapt it to the company's needs and this remodeling included an entirely new heating system. Considerable thought was given to the choice of the boiler plant to be installed and especially to the fuel to be burned. Space available for plant and fuel storage was limited and this, together with considerations of cleanliness and operating labor, led to the decision to use gas for fuel.

After nearly three seasons of operation the company is well pleased with the heating plant and its operating results. Although the company has had no househeating rate for its customers, this will come eventually. Moreover, there is a possibility that natural gas may be brought to Memphis at no distant date with the househeating possibility which it would afford. The company's office heating installation is, therefore, an especially interesting one for study and a guide to be used in designing or estimating on other future installations.

DID YOU KNOW—

THAT manual temperature regulation might require 50 per cent more gas for building heating than automatic thermostat regulation?

THAT satisfactory temperature control could be had for a five-story office building with thermostats located on a single floor?

THAT first-floor public space heating requires special precautions (as compared with upper-floor office space) in order to maintain satisfactory temperatures?

If not, it will pay you to read this article and learn the experience of the Memphis gas men.

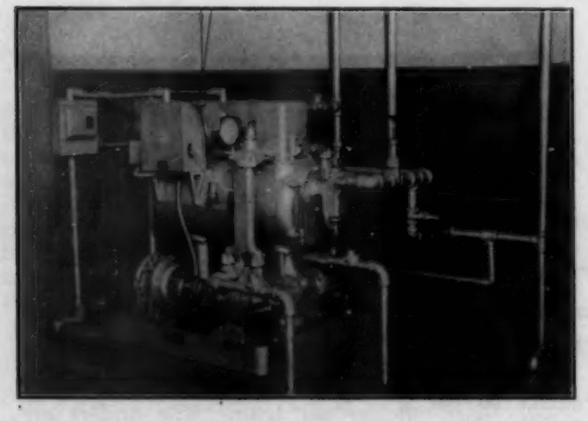
The boiler plant consists of two gas-fired boilers with five-inch steam connections; each boiler has eleven large sections with a gas burner for each section. As each burner consumes about 200 cu. ft. of gas per hour, the total hourly demand when both boilers are in use is 4,400 cu. ft. of gas. Each boiler has a rated capacity of 935,000 B.t.u. heat transfer per hour. The boilers are equipped with several safety appliances for automatic operation. These include a low-water gas cut-off, a high-pressure cut off, and a water feeder which automatically admits or rejects water from the boilers when the water level falls below or rises above a predetermined range. The boilers are also equipped with secondary air shutters which are closed by action of the thermostat motors when gas is cut off.

The total installed radiation is 6,175 square feet; a low-pressure or "vapor" system is employed. The main line from the boilers passes up through the southeast corner of the building to a point near the ceiling of the fifth floor. From this point a header passes along the south, west, and north sides of the building; the east side is an inside wall. The header supplies nine vertical branches

extending from fifth floor to basement, each branch supplying radiators on the various floors. A water-return line collects the condensate from all the radiators and branches and connects with the inlet of an electrically driven vacuum pump which automatically returns water to the boilers.

Thermostat Control

The temperature in the building is automatically controlled by two thermostats located on the inside, or east wall, of the second floor, one thermostat connected with each boiler. The thermostats are set about two degrees apart so the one with the lower setting will not cut in its boiler until the room temperature drops below that which the other thermostat is set to maintain. Since each thermostat operates over a range of about two degrees, there is a range of four degrees between the temperatures at which the boilers are both on or both off. Except on a few of the coldest winter days, one boiler will maintain the required temperature throughout the day after the two boilers thrown on together for about an hour in the morning get the temperature up to normal.



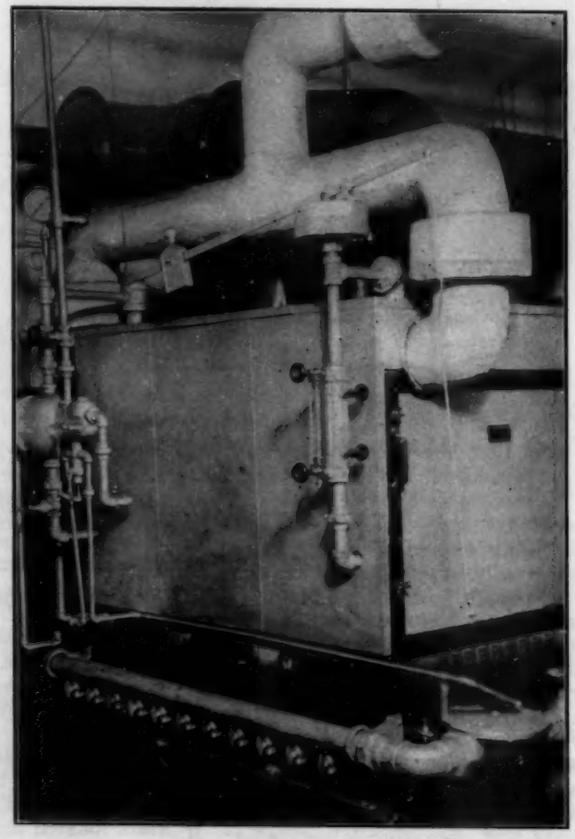
Vacuum Pump for Boiler-Water Feed

While in general the operation of the heating system has been very satisfactory, the temperature control throughout the building has been by no means perfect. That it would be practically impossible to maintain the same temperature throughout six floors by control from a single point was not unexpected. The second floor as a control point was chosen because it was believed that it would represent average conditions. While this has been quite well borne out, the departures from this average on other floors is considerable, the floors above the second running warmer and the lower floors colder than the second floor.

Special Ground-Floor Problems

The first floor temperature control has given us the most concern. This floor is devoted to appliance display and to the cashiers and applications departments. In order to improve the appliance display conditions, the floor was somewhat under radiated and the constant entrance and exit of customers through doors on the north and west sides introduces much cold air. It has been found that the temperature on the display floor is often as much as five degrees below that on the second floor.

Another complication and one which should be considered in designing a heating system for such a building, is the arrangement of radiators on this floor with reference to the steam supply. The radiators in the most exposed portion of the first floor, viz., the north end, receive their steam from the extreme end of those vertical branches which, in turn, are connected to the extreme end of the main header on the fifth floor. A partially successful attempt has been made to offset this condition on this floor by throttling the supply to branches on south



One of Two Gas-Fired Heating Units

and west side so as to force more steam to the north side of the building. Another plan which has been discussed, but not yet carried out, is to run an independent header directly from the boilers to the north end of the building along the basement ceiling and supply the radiators of the north end of the first floor, direct from this header. Revolving doors for the entrance and exit of customers have also been suggested to conserve heat in the first floor.

In manuals on heating a temperature of 70 degrees F. is often given as that to be maintained in office buildings. This temperature may have been entirely satisfactory in the days of many clothes, but our experience has been that our women office

employees demand a temperature around 77 degrees F. to keep them warm.

In heating an office it is almost impossible to please everybody. We have with us always the fresh air "bug," who demands an open window. Fortune often places near him the sensitive person who is only happy at a temperature of at least 80 degrees F. As a consequence the lot of him who is responsible for temperature regulation is not entirely a happy one even if he does use gas, the finest fuel in the world.

The thermostats used for controlling temperatures are of the clock type and are set to maintain a temperature of 60 degrees F. from 10 p. m. to 5 a. m. and the regular daytime temperature the balance of the time. This insures comfortable working temperature when, as occasionally happens, night work is necessary in certain departments. While it is unlikely with the climatic conditions prevailing in Memphis that the building temperature would ever fall as low during the night as to endanger plumbing, still we feel that little if anything would be gained by allowing temperatures to fall below 60 degrees at night with the consequently longer heating-up period in the morning.

Gas Consumption

No daily gas meter readings were taken during the heating season, but the estimated daily maximum demand is approximately 87,000 cu. ft. of gas; and the maximum hourly demand is about 4,400 cu. ft. when both boilers come on together to heat up the building in the morning.

The monthly gas requirements for the heating seasons of 1925-1926 and 1926-1927, together with the temperature deficiency below 65 degrees F. were as follows:

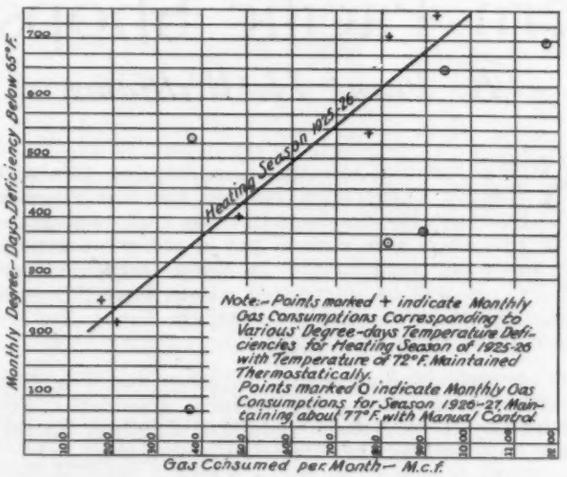
	1925-26		1926-27	
	Cu. Ft. Gas Burned	Degree Days Deficiency	Cu. Ft. Gas Burned	Degree Days Deficiency
October	174,800	263	1,600	0
November	488,400	402	380,200	534
December	818,300	710	943,400	651
January	928,100	743	1,170,400	697
February	560,800	471	893,400	378
March	772,600	545	838,400	363
April	210,300	224	371,000	79
	3,953,300	3,358	4,598,400	2,702

Gas burned per sq. ft. radiation per degree-day: 1925-26, 0.18 cu. ft.; 1926-27, 0.27 cu. ft.

It is interesting to note that while the heating season of 1925-26 was decidedly more severe than that of 1926-27, considerably more gas was burned during the latter season. This was due to two reasons. In the first place, the heating system had more expert supervision during the first year of operation and thermostatic control was more rigidly maintained, while during the second season the heating system was under the supervision of a building custodian who catered more to the whims of individuals who felt they needed a higher temperature, often turning on a boiler manually when the thermostat was not calling for heat. A second cause was a poorer circulation of air about the thermostats due to the erection of a partition on the control floor which caused a lag in the temperature control, the radiators being on one side and the thermostats on the other side of the partition.

Heat Costs Money!

As shown in the accompanying chart, in which degree-days deficiency are plotted against monthly gas consumptions, the latter are very closely proportioned to the deficiency when rigid thermostatic


Monthly Degree-Days Deficiency Below 65°F.
Heating Season 1925-26
Note:- Points marked + indicate Monthly Gas Consumptions Corresponding to Various Degree-days Temperature Deficiencies for Heating Season of 1925-26 with Temperature of 72°F. Maintained Thermostatically.
Points marked O indicate Monthly Gas Consumptions for Season 1926-27, Maintaining about 77°F. with Manual Control
Gas Consumed per Month— M.c.f.

Relation of Gas Consumption to Temperature Deficiency

Close relationship shown when automatic thermostat control is used; erratic results experienced, shown by scattered circles, when manual control of temperature is attempted. Fifty per cent more heat is required per degree-day of temperature deficiency with manual control and excessive room temperatures than with proper temperature maintenance using thermostats

control is employed. But, as indicated by scattered points representing 1926-27 conditions, there is no definite relation between these factors under manual control conditions. The fact that with manual control 50 per cent more gas per degree-day was used and approximately a 5-degree higher temperature was maintained certainly emphasizes the value of thermostatic control and a proper average temperature for fuel economy. What premium one is willing to pay for excess temperatures to meet individual requirements is for the user to decide, but that the premium is a heavy one is evident from the data given above.

The heating plant described in this article is the first gas fired central heating plant to be installed in Memphis. The company feels that the expense of operation is warranted in its own case, because at the rate it must charge itself for gas the cost is but little in excess of the annual cost of coal burned to heat the building by the previous occupants. Also, the use of gas releases considerable space for other uses, which would otherwise be required for fuel storage. Cleanliness, the very slight attention required by the gas fired boilers, their quick steaming and flexibility in operation, are other points of great advantage.

Natural Gas Saves Money for Southern Pacific Shops

By Frank H. Williams

SOME months ago the Los Angeles Gas and Electric Corporation induced the Los Angeles Southern Pacific shops to replace oil, coal, gasoline and wood with natural gas in the great variety of processes encountered in these large, modern shops. It will be interesting to see how this was done and to learn what the Southern Pacific has accomplished since the change.

The methods of securing the change and what has occurred since then were recently graphically explained by C. M. Robert, Indutsrial Engineer for the Los Angeles Gas and Electric Corporation.

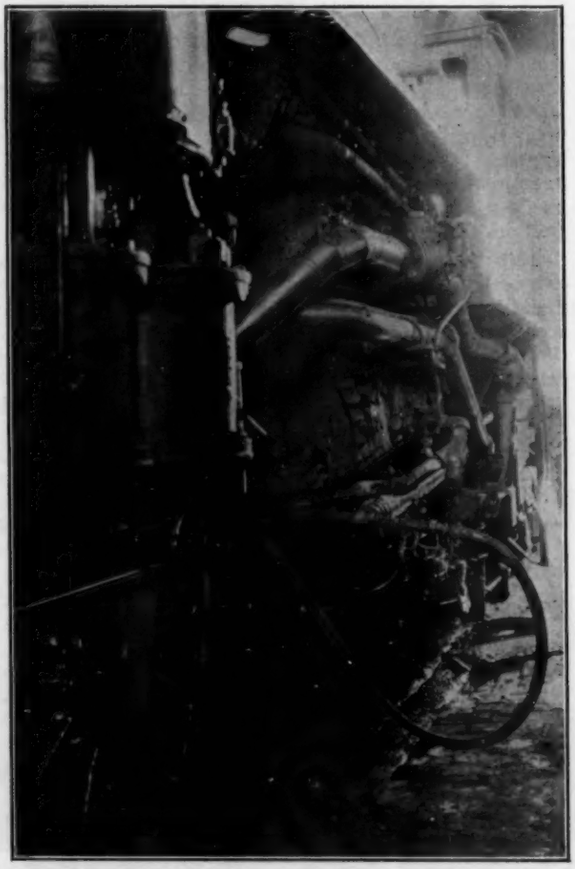
It took many months of hard work by the New Business Department representatives to prove to the Southern Pacific shops that their shop processes could be handled better and at less cost with gas as a fuel. Even when the officials were finally convinced that it would be advantageous to make the change there still remained a great amount of preliminary work to be done before the gas could actually be applied.

Complete Survey Made

A complete survey was made to determine the amount of gas that would be required to serve the shops. This was found to approximate the huge total of 640,000,000 cubic feet a year.

The shops cover an area of more than fifty acres and in order to adequately serve them a network of more than 6,000 feet of yard piping had to be laid, with connections to each of the several buildings and locations where the gas was to be used. A gas line 1,700 feet long was run completely around the outside of the Round House to provide connections for firing engines. Meters had to be set for the different buildings so that checks could be made on the consumption of gas by the various departments. It was considered highly important, by the railroad officials, that means for making this check be provided. All the appliances used in the various shop processes had to be converted to gas use, too, of course.

Because of the enormity of the task the work could be accomplished only gradually. After the gas was made available, however, it was applied to one process after another until, finally, the last appliances were converted over to gas use the latter part of last year.



Gas line for firing locomotive

The first installation was in the boiler house, where there are six horizontal steam boilers developing 3,000 horsepower. After the first month's use of gas in the boiler house the Los Angeles Gas and Electric Corporation was able to show the railroad company a monthly saving of over $1,000 in fuel costs. This rate of saving has been maintained since that time, and is certainly impressive.

Some of the processes in which gas has replaced other fuels include forging, brazing, rivet heating, mold drying, sand drying, soft metal melting, brass melting, paint removal, tire setting and the firing of locomotives.

The use of gas for firing locomotives in getting up steam is unique. As far as is known, it had never been done before, and the Los Angeles shops of the Southern Pacific is the only place this application is being made.

Procedure in Firing Locomotives With Gas

The method employed is as follows:

After a run a locomotive is placed in the round house, thoroughly inspected and prepared for its next trip. Prior to the use of gas, the engine being cold, steam had to be taken from the boiler plant to break up the oil before the engine could be fired. (All of

these engines are oil burners, it should be stated.) With the use of gas, however, all that needs to be done is to attach a gas line from the connection at the round house stall, apply a torch and the fire is ready. The gas fire provides ameans of gradual heating up to steam at any desired time. This is very much easier on the engine itself and on its mechanical equipment and tends to prolong the life of the engine. This is, of course, a vitally important point for the railroad.

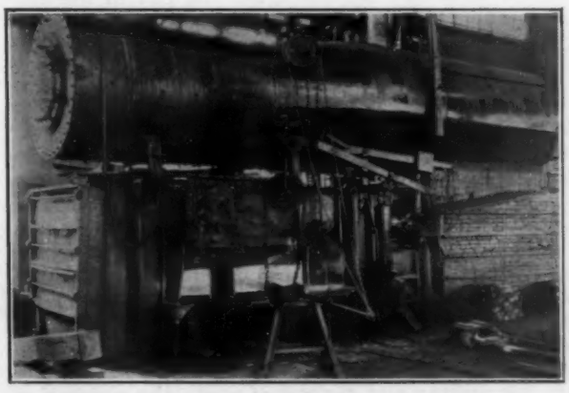
Some of the other advantages of using gas for this process are the fact that the engines can be fired in much less time than formerly; the smoke nuisance is avoided; the fire hazard from oil drippings is done away with; and, finally, there is the very important consideration of an actual financial saving of approximately $2,000 a month.

The round house of the Southern Pacific at Los Angeles will hold sixty engines at one time. Approximately 10,000 cubic feet of gas an hour is used to get up steam for one engine and oftentimes from four to six engines are fired in an hour. This gives an idea of the amount of gas required daily for engine-firing alone.

Extra large type engines are used on the Southern Pacific lines. The larger type develop 3,500 horsepower. They generally run 815 miles to Dallas, Texas, before going off the run.

Gas Rivet Heating Found Economical

Considerable money is saved by using gas, too, in rivet heating. This heating was formerly done with oil or gasoline for fuel. The heat from these fuels was irregular in its intensity, thereby causing a heavy loss in rivets due to scale on the metal. Since gas has been installed on this process a check has been made and it is shown that the saving in rivets alone which were formerly thrown away the Southern Pacific makes enough to pay for the gas used on this process.



Heat treating a billet

The Southern Pacific shops are completely equipped for repair and for the rebuilding of locomotives. All parts when worn are taken out and made new, which means, of course, much machine work, blacksmithing and forging. Gas has an important function in many of the processes involved in this work.

The accompanying photograph shows a big billet of steel under heat treatment in a gas-fired furnace in these shops. This particular piece of steel was to be made into a driving rod for an engine. It weighed 1450 pounds and when heated to the proper temperature was placed under a hammer driven by an air compressor. This hammered it to pattern, after which it went into the machine shop for final work and then into service on an engine.

In firing furnaces by gas instead of oil or other fuels a distinct and worth-while saving has also been made to the Southern Pacific and the gas provides a more satisfactory form of heat in that it is more dependable and easier to handle.

Better Results and Lower Cost in Every Case

It is interesting to know that in every process where gas has displaced another fuel, the Southern Pacific Company reports better results at a lower cost. The successful application of gas at the shops was so entirely satisfactory, in fact, that the railroad company asked the Los Angeles Gas and Electric Corporation to install gas also at their Pintsch gas plant in Los Angeles, where a yearly consumption of 14,000 barrels of oil was necessary, or the equivalent of 70,000,000 cubic feet of gas.

The Southern Pacific shops in Los Angeles, it should be stated, are among the outstanding industrial features of the city. The shops cover an area of more than fifty acres. The gas is supplied to the plant through a 6-inch orifice meter, and in order to segregate the gas used by the various shop departments two 4-inch orifice meter and four Westinghouse sub-meter sets were installed. The gas consumption is now running more than 1,500,000 cubic feet a day, which is the equivalent of the quantity used by more than 10,000 of the Los Angeles Gas and Electric Corporations average domestic consumers.

COAL HYDROGENATION

The American commercial attache at Berlin reports that the coal hydrogenation plant now under construction at Meiderich is expected to start operations in October or November with an annual output of about 30,000 metric tons. The Farbenindustrie plant is now operating at about this rate, but will be increased to about 140,000 tons at the end of the year. Tests have proved that all sorts of Ruhr coal can be used for hydrogenation with the exception of anthracite, but the different kinds of coal show different results in output of oil. On an average it is claimed that a metric ton of coal will produce 150 kilos of "benzine," 100 kilos of "middle oil" suitable as fuel for Diesel motors and 80 kilos of lubricating oils. It is also claimed that coal of a value of 15 marks will produce oil to the value of 65 marks. This is the result of experiments with the Bergius-Billweiler process, whereas the I. G. Farbenindustrie A. G. uses a process of its own based on Bergius patents but considerably improved by the company's research. The Leuna plant also uses lignite instead of coal. The hydrogen, always the most expensive factor, is being produced from cheap coke-oven gases.

Engineering Aspects of Natural Gas Taxation

By E. G. Sievers

Valuation Engineer, Bureau of Internal Revenue

THE several Revenue Acts have imposed a tax on net income and it is essential that it be equitably distributed. Over-taxation is as economically unsound as under-taxation; consequently every effort is being made to ascertain as nearly as it is humanly possible the correct amount of tax to be paid. Obviously, deviations in one direction or another are bound to exist, due to the human element of error, based largely upon interpretation and opinions of the law, and judgment with reference to the facts and conditions surrounding the particular industry in question.

A Meeting of the Minds

That the intelligent application of the Revenue Acts requires a knowledge and careful interpretation of the tax law is perfectly apparent. Likewise it is a well-known fact, and fully appreciated by those concerned, that the consideration of income tax cases requires good judgment and a thorough understanding of the various types of business and industries. It becomes a meeting of the minds of both sides as in any form of contract, and above all the ability to speak the same language.

Whether it is in correspondence, in personal conferences, or in field investigations, it is necessary that the government representatives fully understand the peculiar problems incident to the particular business or industry under consideration. It is this fact which demands and justifies the work of the engineers in the consideration of natural resource income tax cases.

Problems Vary With Different Industries

That each industry has problems peculiar to its particular activity and perhaps far different from those prevalent in other industries is a well-recognized fact. The Natural Gas Industry and its ramifications presents problems different from the mining of metals or non-metals, manufacturing, or any other type of industry.

The production and distribution of natural gas and oil, both closely related, present many problems which are characteristic only of these industries and are not found in any other business undertaking. To understand these thoroughly and to solve them correctly requires a knowledge of, and experience in, the extraction of oil and gas. Recognizing this fact, the Bureau of Internal Revenue, at the very inception of the Income Tax Unit, created a staff of engineers, thoroughly trained and which has had actual experience in the industry. This has enabled a mutual understanding of all problems and has resulted in greater cooperation and a more equitable determination and distribution of the taxes. In other words, it has enabled both parties to speak the same language, the only way in which satisfactory results can be obtained.

In the field of income taxation some classification of industries may be borne in mind. There is the natural resource group which comprises those individuals or organizations engaged in the extraction of natural resources such as coal, oil, gas, metals, non-metals and timber. Manufacturing may be considered another classification, and in like manner various groups may be defined. In this discussion however, we are concerned only with the first group and especially with those engaged in the production and distribution of natural gas.

Engineering Principles Involved

The methods of producing natural gas involve engineering principles. In the first place, the location of new fields and supplies calls into service the geologist, trained and experienced in the determination and interpretation of geological conditions under which natural gas is found. Buried in the earth and in the process of formation for geologic ages, natural gas is a fugitive substance requiring highly trained engineers and field men to reduce it to possession. This requires not only bringing the gas to the surface but likewise the construction of a huge network of pipe lines and finally the distribution of the gas to both the industrial and domestic consumers.

The income tax is based on net income, but under the Revenue Acts gross receipts become net only after deducting operating expenses, repairs, maintenance, and appropriate deductions for depreciation and depletion of the property. In the case of natural gas, depletion is one of the major items to be considered, involving, as it does, the physical laws which govern the behavior of a natural resource such as natural gas. Consequently, the determination of depletion in its various aspects is truly an important feature, requiring an engineering and economic understanding of the nature and problems of production, the drilling and control of wells, the estimation of gas reserves in the property and the general field conditions, all of which form a part of the consideration of the whole problem. It is these features which engage the services of the Bureau Engineers.

Depletion is the loss sustained through the progressive removal of natural resources. The reserves of mineral deposits such as oil, gas and ores, are wasting assets from the time production begins be-

cause there is no recuperation or rehabilitation of any part or portion that has been removed from the earth. As far as human needs are concerned they are gone forever.

The Revenue Acts of 1918, 1921, 1924 and 1926 all provide for a depletion allowance although varying somewhat in the basis of computation. Section 214(a) of the above Acts provides: "In the case of mines, oil and gas wells, other natural deposits, and timber, a reasonable allowance for depletion and for depreciation of improvements, according to the peculiar conditions in each case; such reasonable allowance in all cases to be made under rules and regulations to be prescribed by the Commissioner, with the approval of the Secretary."

The above provision establishes the authority for a depletion deduction in arriving at the final income tax. The purpose is quite obvious, because it is a matter of fact that a natural resource is a wasting asset and not replaceable. That those engaged in the extraction of such an asset, natural gas for this discussion, are justly entitled to a return of their investment in accordance with the rate of the wasting of the supply is likewise apparent, and it was with this principle in mind that Congress made the provision for depletion deductions.

Determination of Proper Depletion

The determination of the proper depletion in each case, however, is not always simple. It may be a case of mere facts with comparatively simple application. On the other hand, many cases are quite complicated, requiring in addition to the ascertaining of the facts and the proper application of the law, judgment and opinions with reference to the conditions surrounding the particular properties in question. Such questions as the economic life of the property, the expected units to be obtained from it, and the rate or proportion of decline, may be based on both facts and opinions. It is here where the representatives of the industry and the Bureau Engineers must seek a common ground. At this point a thorough understanding and appreciation of the other's problems will materially simplify the adjustment of the case, and what is just as important will result in an equitable settlement. Frequently the Bureau Engineers make trips into the field to observe and study the conditions existing better to enable them to interpret and analyze the data presented by the taxpayer.

Operations in one gas field may be utterly different from those in another field, a fact which materially affects the rate of depletion and the ultimate result to be obtained. Consequently the careful consideration of all facts and frank discussions in conference by the representatives of both the industry and the Government generally results in a satisfactory solution.

Basis for Depletion

Only the general question of depletion and other engineering features can be covered in this discussion. It should be borne in mind that there are many refinements which must be taken into account in the actual consideration of natural gas cases and that there are various rulings and decisions which in some way bear upon the question under consideration. However, it is not the purpose of this discussion to explain the numerous details, but rather to adhere to the general principles which remain undisturbed.

The depletion of a natural gas producing property is that portion of the total reserve which is removed between the beginning and end of a period. According to the law such depletion may be based upon one or more of the following:

(a) Cost of property, if acquired on or after March 1, 1913.

(b) Value as of March 1, 1913, in cases of property acquired prior thereto.

(c) Discovery value as provided for in the Revenue Acts of 1918, 1921 and 1924.

(d) Percentage depletion as provided for in the Revenue Act of 1926.

Other special bases for depletion are encountered under the various Revenue Acts, but in this discussion it is desirable to confine our attention to the general phases of the question.

Cost of Property

In general the cost of a property is a question of accounting. However, frequently natural gas properties are obtained for stock in the corporation, in which case it becomes a question of determining the cash value of the stock in order to correctly ascertain the amount paid for the property. In the absence of substantiating data, such as representative stock sales on the open market, it generally becomes necessary to appraise the assets in order to arrive at the value of stock. Here too the engineer is called into service, because the appraisal of gas properties is very largely based upon engineering principles.

In order to arrive at the correct cost, the Bureau must of necessity require the taxpayer to submit information upon which the proper determination can be based. Information is requested with reference to the cost, whether cash or stock, location of the property, the date of acquisition, party from whom acquired, term of the lease, the royalty rate, interest owned, as well as interests owned by others in the same property. Another important feature is whether the property is producing or unproven. If producing, the cost of the property can be returned through annual depletion deductions from gross income, whereas the cost of an unproven property is either not diminished or is diminished by annual amortization deductions until production has developed. When production begins the unextinguished cost may be depleted. If the property is never developed, and the taxpayer abandons the property or finally divests itself of title, the cost may be written off. The general method of depleting producing property is the unit basis, that is, a return of the cost on the basis of the annual production. Consequently, it is necessary to have the information on the production of the property and the expected amount of gas reserves, in order to arrive at the proper depletion unit.

In accordance with the Revenue Acts, depletion is also computed on the value as of March 1, 1913, in cases of properties acquired prior thereto. The

determination of cost in many cases is a comparatively simple matter, but the question of March 1, 1913, value presents many more difficult situations. The Revenue Acts contemplate that a March 1, 1913, value of the property should be based upon the actual conditions existing at that time. To the natural gas producer and those familiar with the natural gas industry, it is evident that the determination of a March 1, 1913, value is not a simple task. According to the law the "fair market value" of a property as of a certain date, is that amount which would induce a willing seller to sell and willing buyer to purchase. Where there has been no sale of the property itself or of adjoining comparable properties, other methods must be used.

Analytical Appraisals

The Bureau does not require any definite method of determining the value of the property. The taxpayer may submit its determination and if the result is reasonable, it is usually acceptable to the Bureau. It is generally necessary to value gas properties by the use of analytical appraisals. There is no established method of valuation similar to the barrel-per-day production method sometimes employed in the case of oil properties, and sales of gas properties are rather sparse to afford a working basis for the comparative sales method. The following elements must be considered in making appraisals of natural gas properties, namely, field price, reserves, operating costs, drilling and equipment costs, hazard and discount factors. The above list immediately discloses the engineering aspect of gas valuations. Although the field price, drilling and operating costs may be more or less a matter of accounting records, the question of determining the amount of gas in the field is obviously a well defined engineering problem.

The field price, which forms the basis of appraisal of a producing property, is that obtained at the mouth of the well. Where the gas is sold at the well this price is generally known and the problem is simple. However, where the gas is produced and transmitted, or produced, transmitted and distributed by the same taxpayer, it becomes necessary to arrive at a proper field price by an indirect method, which necessarily begins with the selling price to the ultimate consumer. To translate this price into a comparative price at the mouth of the well, it is necessary to deduct operating costs, depreciation of pipe lines and other equipment, as well as the profit properly accruing to the transmission and distribution phases of the business. Again, many cases are simplified because of actual contracts stipulating a definite price of gas at the well. As the history of the natural gas industry shows an actual increase in the field price of gas from year to year, a predicted annual increase in price is generally allowable for appraisal purposes, provided there are no contracts limiting the amount of the price to certain specified rates. Unlike the price of oil, the price of gas suffers practically no fluctuations other than a general increase upward, and an annual increment of from ¼ to ½ cent per thousand cubic feet per year is used, which demonstrates that the actual practices and field conditions in the natural gas industry are duly reflected in the appraisal of gas properties as made by the bureau.

Of the elements which must be considered, the matter of the determination of the quantity of gas remaining in the ground presents the most intricate problem. Nature alone knows what is confined within its own reservoir and it is beyond human comprehension to accurately determine reserves of natural gas remaining as of a certain date. However, with an understanding of the geologic formations and the general conditions in the field, the natural gas engineers have made considerable strides and have had remarkable success in predicting future supplies. No one will contend that the reserves as determined by the taxpayer, or those computed by the bureau, or those finally determined upon between both parties, are absolutely correct, but there is no question that they are as nearly accurate as it is possible to ascertain under the present known conditions.

Considering the elements which have been enumerated, the March 1, 1913, value of a producing gas property is therefore obtained by multiplying the reserves of gas by the field price and deducting operating and equipment costs and applying the proper discount factors. This procedure is, in fact, merely an arithmetical calculation to apply the engineering facts disclosed in compliance with the law.

In the process of determining the natural gas reserves consideration may be given to numerous factors such as representative decline curves, rock pressures, open flow and other elements which might prove of account in the particular problem at hand However, these are refinements which are merely a means of arriving at definite results. Their use may vary with the conditions in the field under consideration, and they may also be a matter of opinion in certain cases.

Discovery Revaluation

Allowance for depletion for years prior to 1925 may also be based upon discovery value as provided for in the Revenue Acts of 1918, 1921 and 1924. Here it is a question of determining the fair market value of a general gas producing property within thirty days of the basic date. A taxpayer to be entitled to revalue its property after March 1, 1913, for the purpose of depletion allowances, must make a discovery after said date, and such discovery must result in the market value of the property becoming disproportionate to the cost.

The methods of determining discovery value are similar in principle to those employed in arriving at a March 1, 1913, valuation. The discovery feature was eliminated under the Revenue Act of 1926, and there was substituted the percentage depletion under Section 204 (c) (2). Cost and March 1, 1913, value, however, continue to be bases for depletion under the above Act.

Section 204 (c) (2) is the authority for depletion allowance in the case of oil and gas wells under the Revenue Act of 1926. It provides that "in the case of oil and gas wells a taxpayer may deduct for de-

(Continued on page 90)

Oscar H. Fogg
President, American Gas Assn.

N. C. McGowen
Chairman, Natural Gas Department, American Gas Association

Alexander Forward
Managing Director, American Gas Association

A MOMENTOUS OCCASION

First meeting of Natural Gas Division under auspices of American Gas Association promises further cementing of friendly relations and active co-operation between all branches of the industry.

American Gas Journal adds its voice of welcome and congratulation to the Natural Gas Division on its first gathering held under the auspices of American Gas Association. This gathering will afford the usual valuable contributions on technical problems of natural gas production and field transmission. These problems are peculiar to this division of the industry and do not concern other gas men directly. They will, therefore, logically form the principal subject of discussion at the Dallas sessions. and it is to be expected that increased economy and still more satisfactory supply of natural gas will result from these deliberations.

Members of the manufactured gas division are looking more and more to the natural gas man for valuable technology. They realize the constantly increasing importance of natural gas as a constituent for admixture with manufactured gas. Furthermore, it is becoming evident that in many respects the natural gas man is showing the entire industry advanced technology of wide applicability. In the fields of high-pressure gas handling and long-distance gas transmission the natural gas engineer has far outstripped other branches of the industry. Many other less conspicuous advances can profitably be adapted from natural gas technique for the manufactured-gas companies' operations.

It is particularly fitting that the natural gas men should meet under the auspices of the A. G. A. It is confidently expected that this closer affiliation will contribute much to the speeding up of the progress of the industry as a whole.

H. L. Montgomery
Chairman, Exhibition Committee

H. C. Morris
Chairman, Arrangements Committee

L. K. Langdon
Chairman, Papers Committee

S. W. Meals
Vice-chairman, Natural Gas Dept., American Gas Association

Dallas---the Gas-built City

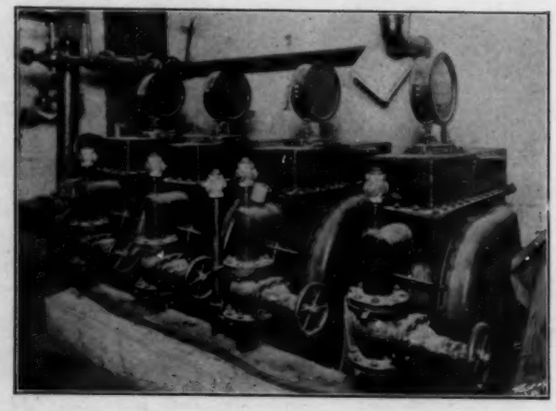
Right—In the heart of the business section.

Right center—High pressure Emco meters in large cracker and candy company.

Left center—B & W 1700 horsepower gas-fired cross drum water tube boiler. Dallas Power and Light Company.

Bottom right—Kirby Building. This edifice, erected fifteen years ago, has never been cleaned and is STILL white. The reason—Natural Gas.

Bottom left—Gas bridge of Lone Star Gas Company of Dallas across the Red River, bringing gas from Oklahoma to Texas.



What Natural Gas Has Done for Dallas

By William C. Grant

Director, Texas Public Service Information Bureau

DALLAS, the center of commercial and manufacturing activities of a region larger than several states, has no coal mines in her territory and no timber for fuel. And yet Dallas is one of the leading cities of the Southwest in growth and prosperity. Natural gas is the explanation.

There are people still living who remember the little first village of Dallas on the banks of the Trinity River, a village that shipped lumber on rafts to build houses for its dozen families and grew rapidly and in a healthy manner until today Dallas numbers a quarter of a million inhabitants and supports more than 800 factories. Gas resources, used practically exclusively in the city for power, cooking and heating, have made this expansion possible.

Early Gas History

In 1910, when natural gas first replaced the old manufactured product, Dallas mains totaled 98.15 miles. Today there are practically 700 miles of mains underlying the busy city. Two decades have seen Dallas grow from a town to a city, an industrial center, a future metropolis. And with the city has grown the gas distribution and consumption.

Gas first came to Dallas in the days when a barbecue was considered the proper celebration for any great public event. At twilight on June 22, 1874, a delegation of leading citizens gathered at the gas works down by the freight yards, and with speeches and refreshments they turned on the 550 B.t.u. gas through the bois d'arc main lines. A group of drilled men waited with ladders for the signal, and when it was given street lights illumined Dallas and gave it its first white way.

The Dallas City Gas Light Company was incorporated in August, 1873, and the following June "flood light" illumination was provided over the plant and grounds for the gala event of the first gas lights in the city. Barbecues were numerous in those days. Dallas was on a boom. One railroad had arrived, another was on its way. The city had six banks, six flour mills, a cotton press, foundries, two grain elevators and a street car line, each having to celebrate the opening day with dinner on the grounds. The population at one census showed 1,200 and the next 7,500. And from the first gas played a large part in the growth of the city.

Sanger Brothers, a department store, established in 1845, was the first industrial account opened with the gas company. They placed a security deposit of $5.00. In December, 1928, this same store burned more than eleven hundred dollars worth of 1,000 B.t.u. gas.

On June 18, 1891, was incorporated the "Dallas Gas and Fuel Company," its object being "the manufacture, generating and selling of gas for light and fuel purposes in the city of Dallas and the laying of pipes for the delivery of such gas." This company succeeded to all property and rights of the predecessor company and operates today.

An old tank, empty, unused, still stands in the Dallas downtown district, where prior to 1910 the reserve supply of gas was stored. But in 1910 came a great change in the history of the gas supply and in the history of the town itself. Natural gas came to town! By that time, however, the people had become so citified in their outlook that barbecues including the entire population in the celebration of an event were no longer regarded as dignified for the fast growing center, and natural gas came into Dallas without the flare, the band or the speeches that had brought the original, artificial fuel so many years before.

Natural Gas Gives Impetus

In spite of its quiet entry, the year 1910 marked a very definite period in the gas industry of Dallas. With the coming of the almost inexhaustible supply of fuel, the city began its second great stride in unique, rapid development. At the time natural gas took the place of artificial, there were 8,743 meters in the city. In 1927 there were more than 65,000 meters in use, with 11,782,189,000 cubic feet consumed during the year.

The gas now used by the city is delivered from four independent fields. There are 16-inch lines from two Oklahoma fields, just across the Texas line. One field is in West Texas near the romantically named town of Ranger and still another is in the Texas Panhandle. The gas is supplied by the Lone Star Gas Company and is distributed by the Dallas Gas Company. The Lone Star Company has more than 3,000 miles of mains in its system, a total of 200 towns in Texas and 200,000 customers. This one company in 1927 added more than 909 miles of main gas pipe and 65 towns which had been toting wood for many years. Dallas is connected with the fields by the Lone Star Company's lines and also those of the La-Tex Company, which draws its supply from Louisiana.

Because of the almost universal use of gas for factories in the city, and because it is practically the only method of heating homes in the city, Dallas uses more gas generally than any other large city in the South for home use, business and manufacturing needs. For household fuel alone Dallas people in 1926, the last census made, paid $2,825,000 for gas, and this at a saving of $3,575,000 in the purchase price of their gas, according to statistics of the company. The figures were based on the comparative price of coal.

An All-Gas Hotel

Gas is used for every possible purpose in Dallas, because people have come to appreciate its cleanliness, its abundance and its relatively small cost. When the men from all parts of the country interested in natural gas visit Dallas for the convention of the Natural Gas department, American Gas Association, May 7-10, they will make their headquarters at the Adolphus Hotel. This hotel, the largest in the Southwest, is gassed from the lowest of its five basements to the top garret under the gargoyles. With gas the food is cooked, the hotel is heated, the electricity is made that runs the fans and the cooling system and that lights the rooms for the possible 2,000 guests. This institution alone last year used 290,988,119 cubic feet of gas

"It seems peculiar, but we use more gas in the summer than we do in the winter," R. B. Ellifritz, manager of the Adolphus, explained, "in spite of the common opinion to the contrary. It takes more gas to make our electricity for our cooling system and fans than it does to heat the 800 rooms in the winter months."

The exhibition buildings, the auditorium where the gas men will hear their programs, will be heated by gas and lighted by gas-made electricity. The food they eat will have been cooked with gas and the street cars on which they

ride will be run by electricity manufactured with gas power. For Dallas is a gas city.

The biggest industry in Dallas supplied with gas by the Dallas Gas Company is the Texas Company Refinery, which uses in one month 109,846,000 cubic feet of gas. Other factories are close competitors with the Texas Company in their gas consumption, and the uses to which gas is put in manufacturing articles is as varied as are the more than 800 factories.

With the tiniest flame of all, a watch spring is tempered and with a stronger one the potter bakes his clay in the kiln. With power made with gas, cotton mills run, dairy products are manufactured, silk stockings are fashioned, candy, automobile parts and salad dressing are produced and drilling machinery for all parts of the romantic business of oil.

One of the interesting by-products of the complete gassing of the city is the clean sky line, the blue sky and the atmosphere, nearest smokeless of any town of its size in the country. Dallas is known as "the smokeless city," and so closely does it live up to its reputation that a visiting aviator, recently landing on Love Field, the city's air port, inquired interestedly, "Is it a holiday in Dallas? I don't see any smoke."

It was not. There were 800 factories going at full speed, only no smoke gave evidence of it in the sky, as clear and clean as that of the Mediterranean. Dallas has only one smoking chimney in all of its borders. And that one is on a building owned by Northern interests, the buyer of fuel for which lives in Chicago, where every working day is spent in the twilight of smoky skies.

Miss Lois Upshaw, advertising director of the Dallas Gas Company, is largely responsible for the clean skies that shine above the city. If ever there is a bit of smoke showing Miss Upshaw must know the reason. She cleans up the ozone like an enthusiastic housewife does her home, and she has interested all of the citizens of the city in her "clean-up" campaign.

"I'm trying to get that one smoking chimney off my skyline before the big national Natural Gas convention in May," she declared, "so that Dallas will be 100 per cent pure in atmosphere."

The Man Behind the Gun

If there is one man in Dallas who deserves most praise for this condition, for the "smokeless" beauty of the city's skyline, it is probably Henry C. Morris, vice-president and general manager of the Dallas Gas Company. He came to the company January 1, 1909, as superintendent of distribution, from Bay City, Mich. Before his service in that city he was with the Detroit Gas Company. In 1912 he became manager of the Dallas company and today is also vice-president of the Fort Worth Gas Company.

Mr. Morris has spent the past twenty years in intense effort to develop the gas interests in Texas and Louisiana, and now he sees the results of these long years of labor in the enormous growth of the companies and the almost universal use of gas throughout these states. His interest in Louisiana originated with his former connection as vice-president of the Gas and By-Products Company of Bastrop, La. This man, who stands for gas development in Texas, was born in Wales. But all of his business life he has been an American.

The chief interest in Mr. Morris' life now is Dallas, its present needs and its future growth. And with his company's backing he is doing a great deal toward meeting both adequately.

"Dallas," he says, "is a wonderful town in which to acquire wealth. But it is not that alone. It is a good city in which to live. The hard driving business men have plenty of time in which to play. And between skyscrapers and factories there are more than 200 churches supported by a church-going community."

A complete school system includes seven high schools, 46 grade schools and 80 private schools, among the latter the Southern Methodist University, Dallas University and Baylor Medical College. For the children's play hours the city has provided a park system that is not surpassed in any city of its size in the world. There are 50 parks, most of which have playground equipment covering about 4,000 acres. There are baseball diamonds, golf courses, tennis courts, swimming pools and football fields. Doing a year-round business, there are 38 theatres in Dallas with a combined seating capacity of 28,000. The municipality owns a theater seating 5,000 persons and Dallas is building for its nationally famous Little Theater, a beautiful home of its own.

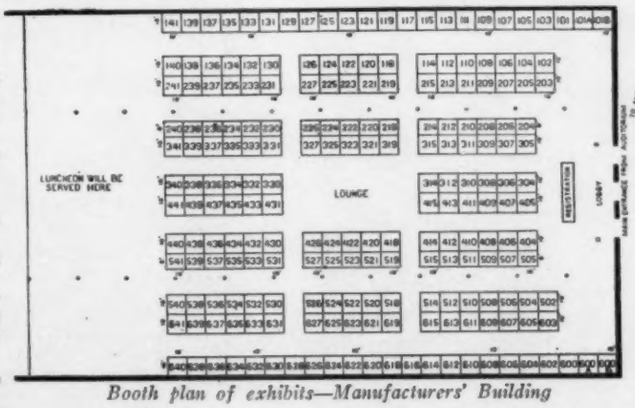
Thirty million dollars are invested in the 130 hotels in the city, where 20,000 visitors can be comfortably housed each night. And no one of these many advantages of the city would be so readily available, so comfortably enjoyed, so reasonably priced or so clean and beautiful without Dallas' inexhaustible supply of natural gas.

Dallas is a gas built city.

Auditorium, Texas State Fair Gounds, where Natural Gas Sessions will be held

Exhibitors at the Dallas Convention, Natural Gas Department, American Gas Association

Name and Address.	*Booth.*
A-B Stove Company, Battle Creek, Mich.	341
Allen Manufacturing Co., Nashville, Tenn.	539
American Gas Products Corp., New York, N. Y.	512, 514
American Heater Corp., St. Louis, Mo.	204
Amer. Schaeffer & Budenberg Corp., Brooklyn, N. Y.	430
Arco Co., The, Cleveland, O.	422
Barber-Greene Co., Aurora, Ill.	109
Barco Mfg. Co., Chicago, Ill.	335
Beckwith Co., Dowagiac, Mich.	125, 127
Birmingham Stove & Range Co., Birmingham, Ala.	101-A
B-Line Boiler Co., Cleveland, Ohio.	131
Bridge & Beach Mfg. Co., St. Louis, Mo.	233
Briggs, Weaver Machinery Co., Dallas, Tex.	110, 112, 114
Bristol Co., The, Waterbury, Ct.	210, 212
Browning Ferris Machinery Co., Dallas, Texas.	107
Bryant Heater & Mfg. Co., The, Cleveland, Ohio.	203
Buckeye Traction Ditcher Co., Findlay, Ohio,	505, 507, 509, 511, 513
Chaplin-Fulton Mfg. Co., The, Pittsburgh, Pa.	336
Clark Bros. Co., Olean, N. Y.	206
Clark, George M., & Co., Division American Stove Co., Chicago, Ill.	305, 307
Cleveland Gas Burner & Appliance Co., The, Cleveland, Ohio	230
Cleveland Trencher Co., The, Cleveland, Ohio.	502, 504
Clow, James B., & Sons, Chicago, Ill.	133
Columbus Heating & Ventilating Co., Columbus, O.	241
Connersville Blower Co., The, Connersville, Ind.	600-A
Continental Supply Co., The, St. Louis, Mo.	308, 310
Crane Co., Chicago, Ill.	418, 420, 519, 521
Cribben & Sexton Co., Chicago, Ill.	126
Cutler-Hammer Mfg. Co., Milwaukee, Wis.	535
Dallas Foundry, Dallas, Texas.	220
Dangler Stove Co., Division American Stove Co., Cleveland, Ohio	631
Darling Valve & Mfg. Co., Williamsport, Pa.	214
Dearborn Chemical Co., Chicago, Ill.	518
Detroit Stove Works, Detroit, Mich.	337
Dresser, S. R., Manufacturing Co., Bradford, Pa.	309, 311
Estate Stove Co., The, Hamilton, Ohio.	431, 433
Fisher Governor Co., The, Marshalltown, Iowa.	520
Foxboro Co., The, Foxboro, Mass.	424, 426
Frick-Reid Supply Co., Tulsa, Okla.	531
Gas Appliance Service Corp., Dallas, Texas.	104
General Gas Light Co., New York, N. Y.	117, 119
Gillespie & Schwan, Inc., Dallas, Houston, San Antonio, Texas	130, 132



Booth plan of exhibits—Manufacturers' Building

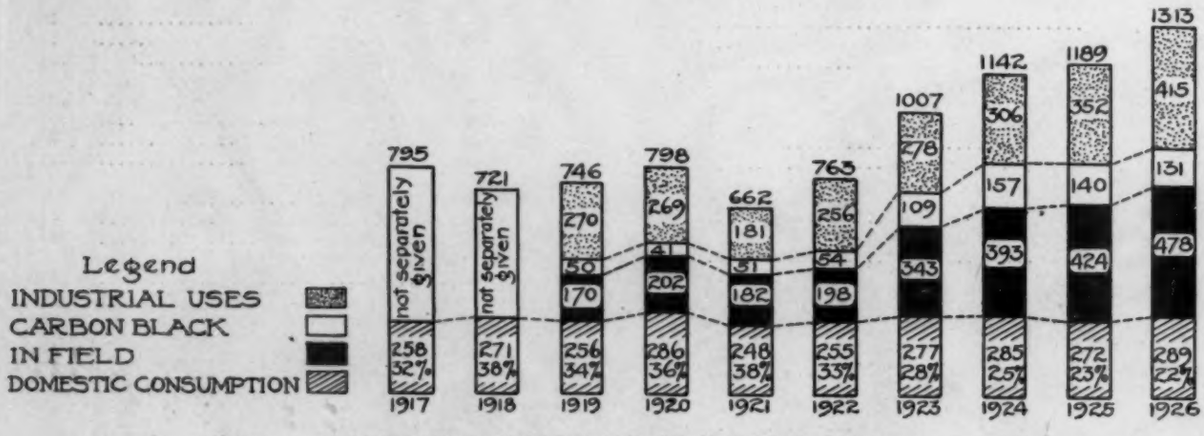
Name and Address.	*Booth.*
Grayson, J. H., Co., Athens, Ohio.	234
Guardian Gas Appliance Co., Cleveland, Ohio.	235, 237
Hays Manufacturing Co., Erie, Pa.	616
Henderson Iron Works & Sup. Co., Shreveport, La.	113
Hill, Hubbell & Co., Tulsa, Okla.	231
Hinderliter Tool Co., Tulsa, Okla.	515
Home Incinerator Co., Milwaukee, Wis.	205
Homestead Heater Co., Newark, N. J.	135, 137
Hope Engineering & Supply Co., Mt. Vernon, O.	524, 526
Hotstream Heater Co., Cleveland, O.	232
Huey & Philp Hardware Co., Dallas, Texas	124
Ingersoll-Rand Co. of Texas, Dallas Texas	103-105
International Business Machines Corp., New York, The Tabulating Co. Division, International Time Recording Co. Division, Dayton Scale Co. Division	118, 120, 219, 221
Johns-Manville Corp., New York, N. Y.	227
Koppers Construction Co., Pittsburgh, Pa.	338
Lattimer-Stevens Co., Columbus, O.	330
Lattner, P. M., Mfg. Co., Cedar Rapids, Iowa.	226
Lawson Mfg. Co., Pittsburgh, Pa.	236, 238, 240
Linde Air Products Co. & Associated Companies,	408, 410, 412
Lone Star Gas Co., Dallas, Texas.	211, 213
Ludlow Valve & Mfg. Co., Troy, N. Y.	527
Lunkenheimer Co., Cincinnati, Ohio.	207, 209
Metric Metal Works, Erie, Pa.	411, 413, 415
Mettler, Lee B., Co., Los Angeles, Cal.	440
Michigan Stove Co., Detroit, Mich.	339
Minneapolis-Honeywell Regulator Co., Minneapolis, Minn.	533
Moore Brothers Co., Joliet, Ill.	434
Mueller Co., Decatur, Ill.	319, 321
National Supply Co., Toledo, Ohio.	404, 406
National Tube Co., Pittsburgh, Pa.	323, 325, 327
Natural Gas Magazine, Cincinnati, Ohio.	505
Naylor Spiral Pipe Co., Chicago, Ill.	523
New Process Stove Co., Division American Stove Co., Cleveland, Ohio	538
Ohio Foundry & Mfg. Co., The, Steubenville, Ohio.	101
Oil Well Supply Co., The, Pittsburgh, Pa.	313, 315

Name and Address.	*Booth.*
Payne Furnace & Sup. Co., Inc., Beverly Hills, Cal...	141
Pittsburg Water Heater Co., Pittsburgh, Pa.....	536
Pittsburgh Equitable Meter Co., Pittsburgh, Pa.....312, 314	
Refinery Supply Co., Tulsa, Okla.....	334
Reliable Stove Co., Division American Stove Co., Cleveland, Ohio	414
Reynolds Gas Regulator Co., Anderson, Ind.....	222
Reznor Manufacturing Co., Mercer, Pa.....	122
Ridge Tool Co., The, Elyria, Ohio.....	618
Robinson Orifice Fitting Co., Los Angeles, Cal.....	506
Roots, P. H. & F. M., Co., Connersville, Ind.....	606
Roper, George D., Corp., Rockford, Ill.....	534
Ruud-Humphrey Water Heater Co. of Texas, Dallas, Texas	540
Safety Gas Main Stopper Co., Brooklyn, N. Y.....	225
Sala Heater & Mantel Co., Dallas, Texas.....331, 333	
Servel Sales, Inc., Evansville, Ind.....	435
Skinner, M. B., Co., Chicago, Ill.....	432
Slattery, J. B., & Bro., Inc., Brooklyn, N. Y.....	111
Smith, A. O., Corp., Milwaukee, Wis.....437, 439, 441	
Sonner, P. J., Gas Burner Co., Winfield, Kan.....	619
Southwestern Engineering Corp., Los Angeles, Cal..	223

Name and Address.	*Booth.*
Southwestern Pipe Joint & Engineering Co., Birmingham, Ala., ...	218
Spencer Thermostat Co., Cambridge, Mass.....	530
Sprague Meter Co., Bridgeport, Conn.....436, 438	
Troop Water Heater Co., Pittsburgh, Pa.....	129
United States Cast Iron Pipe & Foundry Co., Burlington, N. J.....	600
Victaulic Co. of America, New York, N. Y.....	522
W-K-M Co., Inc., Houston, Texas.....	340
Wailes Dove-Hermiston Corp., Tulsa, New York, Houston 508, 510	
Walworth Co., Inc., Boston, Mass.....623, 625, 627	
Ward Heater Co., Los Angeles, Cal.....	332
Waukesha Motor Co., Waukesha, Wis.....	102
Webster Engineering Co., Tulsa, Okla.....	239
Westcott Valve Co., Inc., East St. Louis, Ill.....	306
Westcott & Greis, Inc., Tulsa, Okla.....	409
Western Gas Magazine, Los Angeles, Cal.....	304
West Park Foundry Co., Cleveland, O.....	208
Worthington Pump & Machinery Corp., New York, N. Y. (A. M. Lockett & Co., Ltd.).....	215

SALIENT FACTS REGARDING THE NATURAL GAS INDUSTRY OF U. S.—LATEST DATA FOR 1926, FROM U. S. BUREAU OF MINES

Natural gas consumed:	
Domestic (billions of cubic feet).....	289
Industrial—	
Carbon black	131
Field	478
Other industrial	415
Total consumption	1,313
Domestic	22%
Industrial	78%
Treated for natural-gas gasoline:	
Billions of cubic feet.....	1,206
Domestic consumers	3,731,000
Value of Natural Gas at Wells:	
Total $124,693,000	
Average per M. cubic feet.....	9.5c
Value of natural gas at points of consumption:	
Total $299,000,000	
Domestic $168,000,000	
Industrial $131,000,000	
Average per M. cubic feet—	
Domestic	58.1c
Industrial	12.8c
Domestic and industrial	22.8c
Natural-gas gasoline (raw):	
Quantity (millions of gallons).....	1,363
Value at plants—	
Total $136,412,000	
Average per gallon	10.0c
Carbon black:	
Quantity (millions of pounds).....	180
Value at plants—	
Total	$9,939,000
Average per pound.....	5.5c



MARKETED PRODUCTION OF NATURAL GAS

Data, in billions of cubic feet, from official reports of U. S. Bureau of Mines. Some variation has occurred and some differences of opinion have prevailed in interpretation of classes of users but the data as reported to the Bureau are believed to be approximately correct in the aggregate and are significant as to trends within the industry.

Recent Gas Activities in the Convention State

Jefferson and Other Towns Enlist Under the Natural Gas Banner

Jefferson soon will be included among the Texas towns having the benefits of natural gas, work having been started on the pipe line which is to bring the natural product to this city, and eleven other cities near here.

The work is under the direction of George Bussart, who with George Beach and P. E. Hussey, will carry on the project. The gas is to be obtained from the Dixie Gas & Fuel Company and possibly from the Magnolia Gas Company. The gas is to be piped from fields at Waskom. The pipe line will be about twenty miles long, 12-inch pipe being used.

The pipe line is paralleling the L. R. & N. tracks from Waskom to Winnsboro, the remainder of the line to Jefferson running along tracks of the Cotton Belt Railroad.

When completed, the line will serve the following cities: Jefferson, Avinger, Daingerfield, Hughes Springs, Naples, Omaha, Mount Pleasant, Newsome, Mount Vernon, Pittsburg, Winnsboro and Gilmer.

Commercial Club Takes Initiative

The Commercial Club of Cameron has taken the initiative to see that Cameron gets natural gas. F. E. Jackson, chairman of the gas committee of the commercial organization, has announced that the last of 500 signers, asking to bring the natural product to the city, had been secured. The gas is to be brought to Cameron by extension of the line from Temple.

Border Gas Company Changes Hands

The Border Gas Company of Laredo has been acquired by the E. L. Phillips interests of New York, along with other properties, including those which are supplying natural gas to San Antonio and Houston, and have been consolidated under management of the Houston Gas Securities Company, it has been announced by Frank J. Stolz, president of the company.

W. F. Morgan is to manage the system which has been consolidated and includes the Dixie Gulf Gas Company, which owns the lines from the Shreveport, La., gas fields to Port Arthur and Houston; the Houston Gulf Gas Company, the Houston Gas & Fuel Company, the Southern Gas Company, Southern Gas Utilities, Inc., Border Gas Company and Southwestern Gas Company.

Odessa Plans for Industrial Growth

The West Texas Gas Company has assured Odessa of natural gas not later than next September 10. Promising this date was done when the gas concern was given a franchise by the city council. The gas is to be used for industrial and domestic purposes. The gas is to be provided from the Texas Panhandle area, via a line that is to serve a number of towns east of Odessa, this place being the western terminus of the pipe line. Rates are to range from 15 to 67½ cents per 1,000 cubic feet, according to agreement by the company in accepting the franchise.

Tioga Grants Franchise

The Community Natural Gas Company has been granted a franchise by the Tioga City Council for construction and operation of a natural gas distributing system in the city.

Lignite Takes the Count

Natural gas has triumphed over lignite for use in state institutions. Lignite producing interests have lost, at least for the present, in their efforts to have the State of Texas continue to use their product as fuel for the state eleemosynary institutions.

Dr. H. H. Harington, member of the board of control, says gas will be piped to the Negro Deaf and Blind School at Austin, the State School for Feeble Minded at Austin, the Confederate Home at Austin and the State Hospital at Rusk, and given a 60-day trial, in line with gas companies' proposals to "prove" natural gas cheaper than lignite.

Gatesville Celebrates With Parade

A parade led by the sheriff and a blazing torch 75 feet in the air were outstanding features in Gatesville the 1st of April in celebrating the advent of natural gas to this city.

The parade was headed by Sheriff Hollingsworth and Traffic Cop Bill Henson, behind which marched the band of the State Juvenile Training School, Boy Scouts carrying torches, a carriage in which rode Leake Ayers, president of the Chamber of Commerce; I. F. Johnson, chairman of the gas committee; Mayor A. M. Sams, and Chester L. May, of Dallas.

The Community Gas Company, which brought the product to the city, was welcomed to Gatesville by Mr. Ayres. Mayor Sams, Mr. Johnson and Mr. May were the other speakers.

The torch, 75 feet in the air, could be seen all over Coryell County when it was lighted.

No Lack of Pressure at Big Spring

Big Spring is one of the latest Texas towns to receive benefits of natural gas. The mains were turned on April 1. The gas is from local fields. The force of the pressure, when it was turned on, was sufficient to throw a 1-inch stone through the side of a sedan 200 yards away.

Line From Lubbock Being Pushed

More than 150 men of John W. Moore's construction crew are working on the 150-mile pipe line which is to carry natural gas from Lubbock to Midland. The line is being laid for the West Texas Gas Company. The line is expected to be completed in 75 working days, at the rate of two miles a day.

Sixteen carloads of pipe recently arrived. Seven miles of ditch has been completed and a telephone line has been completed past Lamesa.

Wilson will be the first point to be reached by the extension of the line. The other towns in the order in which they will be reached include Tahoka, O'Donnell, Lamesa, Stanton and Midland. The extension will be completed in time to serve these places before cold weather starts in next winter.

The gas supply is coming from the fields north of Amarillo, in the Texas Panhandle.

The West Texas Gas Company entered the South Plains last spring, when the franchises at Lubbock and other surrounding towns were purchased. Gas was brought here October 1, 1927.

Other extensions were announced by the company when this field was entered and Crosbytown was the first place to be served. The line to that place serves several other cities, including Idalou, Lorenzo, Ralls and Crosbytown.

Proposed extensions will give service to Brownfield, Littlefield, Levelland, Amherst and other South Plains towns, though work on lines to serve them has not been started.

Millions to Be Spent on Pipe Line

An expenditure of $25,000,000 will be made on the 264-mile pipe line of 22-inch pipe from the gas fields north of Amarillo to Denver, to supply that city with natural gas. Completion is expected to be made during the year.

Companies interested in the plan include the Cities Service Company, owners of 16,000 acres in the gas field near Amarillo and which will furnish distribution in Denver and Pueblo; the Standard Oil Company of New Jersey, and the Southwest Development Company.

Leading directly through the northeast corner of Texas, the line will cross a part of New Mexico and continue north and slightly west to Denver, passing through Pueblo.

From the New Mexico state line the main part of the trunk line will be owned by the Colorado Interstate Gas Company, this company being jointly owned by the Cities Service Company, Standard Oil Company of New Jersey, and the Southwestern Development Company.

One of the largest consumers will be the Colorado Fuel and Iron Company.

Work has been started on the line, which will require 81,800 tons of pipe, enough to use up the entire output of a sizable plant for a long period.

A Chance for Ideas

Efforts of the Texas Railroad Commission for some time have been endeavoring to find a method of bringing the White Point gas well under control.

The well, near Corpus Christi, has been running wild for some time, wasting 25,000,000 cubic feet of gas a day, causing the field pressure to drop from 927 to 600 pounds. The well has alternately burned and smothered itself. A new effort will be made to cap the well.

The Commission now is sending Chief Deputy Leslie McKay of the oil and gas bureau of the commission, and S. W. Blount, field deputy for that district.

Owners of the well have told the commission that a new plan to bring the well under control has been devised and that they are ready to take steps to try it. If it is unsuccessful, the commission will call for more experts and try other methods.

Midland to Get Gas

Natural gas from the Panhandle field of Texas is to be piped into Midland and Stanton, according to W. W. Graves, manager of the West Texas Gas Company, which will bring the line from Lubbock through Tahoka, O'Donnell and Lamesa. At Lamesa the line will split, the western branch going to Midland and the other to Stanton.

The West Texas Gas Company recently bought an additional block of land in Midland for terminal warehouse facilities. This is about five blocks from the site recently purchased for the downtown office. Gas consumption in Midland is being surveyed by Joe Caldwell.

Pipe Line Leads Through Three States

Two hundred and fifty miles of 20-inch pipe lies staunchly buried in an almost straight line leading through three states from Pampa, Texas, to Wichita, Kan. The cost was around $15,000,000.

This newest gas conduit of the Empire Company may not be the largest or longest pipe line in the world, but in many respects it is unique. More than a mile and a half of the line often was constructed during a day, when it was being laid. The peak day's work was 8,200 feet.

Blasting through solid rock, contending with cave-ins, conforming the line to creek and river bottoms and overcoming adverse weather conditions, the engineers on the Empire job put their line through with little delay. Tractors and ditchers were used, supplemented by hand labor.

Weld and couple joints were used, some of the pipe sections weighing as much as two and a third tons. A delicate part of the job was bends made in the pipe over open fires to suit the contours on the route.

One hundred and forty-five cities and towns in three states—Oklahoma, Kansas and Missouri—are drawing on the supplies carried by the new line, Kansas City getting gas from this line.

More than $5,000,000 was spent for pipe for the line, which is about 120,000,000 pounds, not to mention the carloads of paint, couplings and machinery used in its construction.

Seven rivers were crossed by the line. A complete telephone line was built along the line for use in construction and operation.

Government Will Extract Helium From Natural Gas in Amarillo, Texas, District

The final closing of a contract with the Amarillo Oil Company of Amarillo, Texas, which, it is thought, will greatly increase the available supply of helium, the rare non-inflammable gas required for the operation of dirigibles, is announced by the United States Bureau of Mines, Department of Commerce. Under the terms of the contract, the Bureau will undertake the extraction of the helium from natural gas from the company's leases on the Cliffside Structure in Potter County, Texas, at a new helium plant to be constructed by the Government at Amarillo.

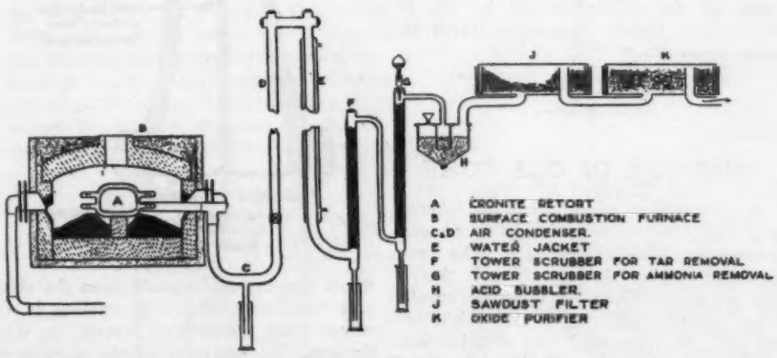
The helium will be recovered by cooling the gas to approximately 300 degrees Fahrenheit below zero, at which temperature all of the constituents of the gas except the helium are reduced to a liquid state. The helium will be drawn off as a gas at this low temperature and compressed into tank cars or steel cylinders for shipment to points where it will be used in lighter-than-air craft and for other purposes. The remaining liquid, consisting of the original gas minus the helium, will then be evaporated to the gaseous state, by allowing its temperature to return to normal, and will be delivered into the lines of the Amarillo Oil Company for use in Amarillo as fuel. The heating value of the natural gas is improved by the extraction of the helium, because the helium and other inert gases removed in the plant have no fuel value.

The low temperatures to be used in the plant will be produced by the compression, cooling and subsequent expansion of gases following practices similar to those used in the Fort Worth production plant and the purification plants which have been designed and erected by Bureau of Mines engineers at Scott Field, Ill., and Lakehurst, N. J., for the War and Navy Departments, respectively, for purification of helium after use in airships.

Technical and General MISCELLANY for The Busy Gas Man

INFLUENCE OF VARIOUS FACTORS ON PRODUCTS OF COAL CARBONIZATION

The factors which influence the rate of carbonization and the gas-making value of the coal or blend which is carbonized are, first, the constitution of the coal, the added inert matter, the size of particles of coal charged and the temperature of the retort in addition to the conductivity of the material forming the retort wall, the shape of the retort, etc. Various experiments were carried out on coals and coal mixtures in a laboratory testing installation which is shown in the accompanying illustration. The reader is referred for the detailed dimensions, etc., of the various parts of the apparatus to the original article.



The first set of experiments is concerned with the effect of temperature. The amount of secondary decomposition of the gas formed is an important matter and depends on the time of contact of the gaseous products with the hot retort and coke. There are really two controlling factors, first, the temperature, and second the free space in the retort. An increase in the free space above the charge will reduce the speed with which the gases leave the retort, and thus prolong the time of exposure to the action of high temperature. The adverse effect of an increase in temperature on the tar may, therefore, be minimized by increasing the weight of the charge and thus reducing the free space.

As far as the effect of the size of the coal is concerned, it was determined that reduction in size caused an increase in the volume of gas evolved. However, in the case of the smallest size of coal, due to the more continuous plastic layer formed, more gas is formed, but the calorific value of the gas is reduced. This is caused by increased secondary decomposition.

Various experiments were also carried out to determine the effect of the addition of various inert materials to the coal. One test was made with eighty per cent coal and twenty per cent coke, and of course the yield of gas was reduced. Furthermore, a small reduction in the amount of tar formed was also noticed. The results of these experiments, which are given in curve form in the original article, are of particular practical importance in determining the economics of the process of carbonizing mixtures of coal and coke in gas works.

Admixtures were also made with non-coking coal which gave a commercially useless residue when carbonized alone. It was found that the yield of gas was just about the same as that obtained by adding the yields of the two coals coked separately. A mixture of seventy per cent coking coal and thirty per cent non-coking coal gave a hard coke of close even structure. The effect of the addition of the non-coking coal on the rate of carbonization was also established.

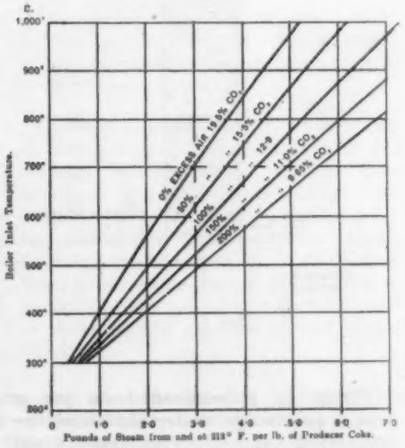
Experiments were also made to determine the reactivity of the coke, which was made from blends. The addition of finely powdered coke appears to cause a small increase in the reactivity of the coke. It was concluded that by selecting suitable coals and the proportions of the mixture it is possible to obtain a considerable improvement in the reactivity of the coke residue. H. H. Thomas, Journal of the Society of Chemical Industry, 1928, pages 77 to 83T.

WASTE HEAT RECOVERY

Various conditions surrounding the economy and technology of waste heat recovery are discussed. It is brought to mind that at the present time the uses that have been found for coke breeze have convinced the gas man that he must look to waste heat for steam raising rather than to this coke breeze for which there was formerly no use. Another important condition tending to promote the recovery of waste heat is the increasing demand for process steam in the gas works, for example, in steaming retorts, etc. Power demands have also increased, making it necessary to have cheap steam.

There are definite limits to regeneration as practised on producer-gas fired furnaces and retorts, and in the past low exhaust-gas temperatures have, quite erroneously, been looked upon as synonymous with high furnace efficiency. As a matter of fact, extremely low temperatures are invariably caused by excess air entering the system at various points and it is necessary that in addition to temperatures the corresponding excess air figures be known before the efficiency can be definitely determined.

The only criterion of furnace or retort efficiency is the amount of fuel used per unit of the primary product, and the maximum effective regeneration occurs when this factor is lowest. In practice it is required that a sufficiently high temperature be attained from the producer gas air mixture to give the requisite flame properties and a simple calculation shows the futility of expecting the secondary air on a producer gas fired unit to absorb more than approximately half of the heat in the resulting escaping gases, when the normal process of raw producer gas firing is used.

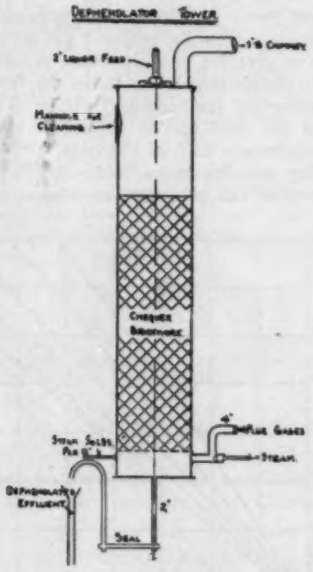

Boiler Inlet Temperature.
Pounds of Steam from and at 212° F. per lb. of Producer Coke.
0% EXCESS AIR 19.5% CO2
95% " " 15.5% CO2
100% " " 12.9 "
150% " " 11.0% CO2
200% " " 9.65% CO2

The accompanying illustration shows the pounds of steam that can be obtained from producer coke of 12,000 B.t.u. per pound net from and at a temperature of 212 degrees F. The producer efficiency is 86 per cent. The variation in the pounds of steam produced with various excess of air and with boiler temperature is indicated. The following tabulation also gives these results. W. Gregson, "West's Gas," February, 1928, pages 2-3.

CO_2 measured in per cent.	Excess air in per cent.	Inlet Temperature 400° C.	600° C.	800° C.	1,000° C.
19.5	0	1.01	2.30	3.68	5.15
15.5	50	1.24	2.79	4.45	6.20
12.9	100	1.46	3.28	5.20	7.35
11.0	150	1.68	3.77	5.98	...
9.65	200	1.90	4.26	6.73	...

TREATING GAS WORKS EFFLUENTS

Gas liquors contain phenolic bodies and various ammonium salts, such as ammonium thiosulphate, ammonium sulphate, sulphite, thiocyanate, etc. The tar and the gas liquor should be separated as far as possible before they get to the storage pits. The contamination of the various purification apparatus with tarry matters is discussed in this article. Various suggestions are made to reduce the phenolic contamination. Thus atmospheric condensers should be replaced by water condensers. The tar should be removed from the liquor before it has time to condense, which means removing the tar at a temperature above the dewpoint. In general, when the following precautions are taken the gas liquor will be improved.



The tar is removed from the gas as soon as possible, preferably above the dewpoint of the gas. The liquor should not be allowed to remain in contact with the tar any longer than is absolutely necessary. Wet purification with short time contact, that is, rotary or centrifugal scrubbers and water condensers, should be used rather than tower scrubbers and atmospheric condensers. The air infiltration into the retorts and plant should be cut down to a minimum and just enough air is admitted for the purpose of revivifying the oxide in the boxes under pressure at the inlet to the purifiers. The condensate from the purifiers should be dealt with separately.

The methods of treating the gas liquor are outlined. The apparatus used for removing the phenol content from the liquor is shown in the accompanying illustration. The tower is filled with suitable checkerbrick and is three and one-half feet in diameter and eighteen and one-half feet high. The liquor is fed to the tower at the top and distributed while it descends the tower, meeting a mixture of boiler flue gases and steam which enter at the bottom of the tower and flow upward. The function of the flue gases is to render the liquor acid. The flue gases are driven into the tower by means of a steam injector, and additional live steam is also provided. The phenol-carrying vapors leave the tower at the top and are conducted to the base of the boiler chimney and thence to atmosphere. For further details see the original article by W. P. Smith, Gas Journal (London), March 14, 1928, pages 690-2.

SULPHUR IN GAS COKE

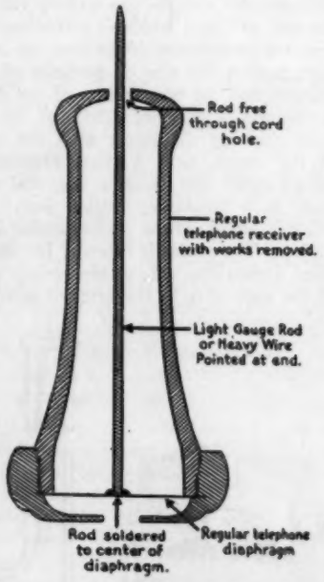
A coke made in a crucible in the laboratory had a percentage of sulphur content greater than the original coal. The evolution of sulphur during coking is therefore not greater from the percentage standpoint than the reduction in the weight of the coal. Wet quenched coke contains less sulphur, for a portion of the sulhpur is removed by the decomposition of the water coming into contact with the incandescent coke. Detailed figures are given on the analysis of a coal used in France for gas making purposes, with particular reference to the distribution of the sulphur present in the coal.

It has been found that when the coke was made in the laboratory crucible within a space of one minute 26 per cent of the total sulphur was volatile and 74 per cent remained behind in the coke. When the coking period lasted three hours the latter figure was reduced to 70 per cent, indicating that probably the sulphates and the pyrites present were completely decomposed.

Experiments have been carried out with the addition of carbon dioxide in the wet quenching of coke, and it was observed that the evolution of sulphur was not increased over washing with pure water. The addition of hydrochloric acid results, however, in a reduction of the total sulphur in the coke to approximately 59 per cent. Nevertheless, it is evident that this practice cannot be adopted for large scale operations. Rene Forrieres, Journale des Usines a Gaz, 1927, number 13, abstracted from Das Gas und Wasserfach, year 1928, page 256.

STEAM STETHOSCOPE

The accompanying illustration shows what is called a steam stethoscope, an instrument designed for showing the flow of steam in pipes, valves and other equipment. This is a home-made instrument


Rod free through cord hole.
Regular telephone receiver with works removed.
Light Gauge Rod or Heavy Wire Pointed at end.
Rod soldered to center of diaphragm.
Regular telephone diaphragm

which can be readily made from the shell of a telephone receiver. Everything is removed from the receiver except the diaphragm. To the enter of the diaphragm a rod long enough to project through the cord orifice is soldered. When the point of this rod is placed against the equipment under test, the hiss of steam can be plainly heard, even when it is entirely inaudible to the unaided ear. The Power Specialist, March, 1928.

LOW TEMPERATURE DISTILLATION OF COAL BRIQUETTES

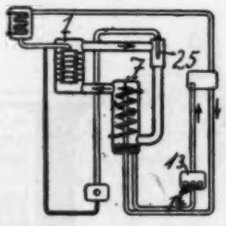
Briquettes made from coal dust and tar and containing twenty-six per cent or more of volatiles are distilled at a temperature of approximately 600 degrees C. The product obtained is generally a swollen mass of agglomerated particles. The examination of the coal during distillation and also the manner in which the par-

ticles of carbon are agglomerated with the aid of a tar or cement into a compact mass were parts of this investigation. Both the coal and the briquette were distilled simultaneously so that their behavior might be observed under like conditions. The object of the research was to determine if possible the best possible binding agent to use in order to avoid the swelling of the mass. Another question was whether or not it was possible to recover the tarry materials and the like, used as binding agents, from the gases and vapors evolved during the carbonization process.

The distillation was accomplished with the aid of a current of superheated steam. The most important conclusion that was obtained from these experiments was that the swelling and setting of the mass of coal dust are avoided when anthrecene oil is used as the binding agent. The pitch content of the anthracene oil must be a minimum, but its binding action must nevertheless be potent. Comptes rendues d l' Academie des Sciences, 1927.

ADSORPTION REFRIGERATOR

The generator and the absorber are arranged within the apparatus at such a height that circulation of the gaseous mixture is effected between the generator and the absorber by the difference that exisits between the specific weight of the gaseous refrigerating medium and an admixed, non-absorbable gas. A spray nozzle, which is shown at 25 in accompanying illustration, injects the mixture of gases into the circulation in a direction which is opposite



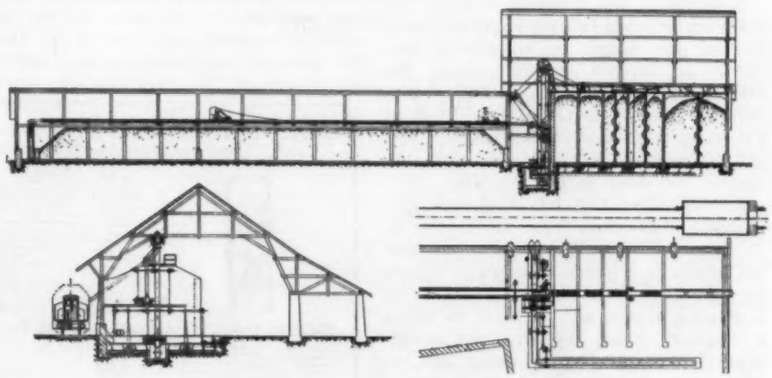
to that of the action of the specific gravity. The generator is seen at 1 in the figure, the absorber at 7, the heating apparatus at 13. Siemens-Schuckertwerke A. G., Berlin-Siemensstadt, Germany. German Patent No. 453,847.

COKE SCREENING INSTALLATION

Difficulty was encountered in a gas works in Switzerland in disposing of the coke produced due to the poor quality of the product. An investigation showed that this was due to the storage of the coke in the open and to the fact that it was merchandised in the unscreened state. To get around this difficulty a coke screening installation was built.

The installation comprises a conveyor with a double discharge hopper for coke and for coal. The screening trough or channel is 14.50 meters long and is divided into two parts. The bottoms of the trough or channel are interchangeable and are made with various sizes of perforations, extending over a certain distance of the channel. The arrangement of the apparatus is seen in the accompanying illustration.

A six horsepower motor is used for operating the apparatus. The coke is screened and deposited in a series of bins as may be seen from the picture and is thus separated into various sizes which can be shipped as desired. A crusher is also provided in the installation for the purpose of breaking large pieces of coke into the desired sizes. Various automatic devices are provided for the transportation of the coke. The coke is quenched by the wet method. This is accomplished within a tower into which the water is sprayed. Tests showed that this was the preferable method, and while the coke may for the time being contain a larger quantity of water than usual when working in this manner, nevertheless the heat in the coke is conserved and a certain amount of water is vaporized and removed from the coke by its aid, so that the coke emerging from the tower is found to contain no more than 2.1 per cent water. The coke obtained is more compact and less spongy. The works management found that the screening installation paid for itself in a short while and the difficulties originally encountered with the disposition of the coke were entirely overcome. H. Moser, Monats Bulletin Schweizer Verein von Gas und Wasserfachmaennern, 1928, pages 1 to 3.



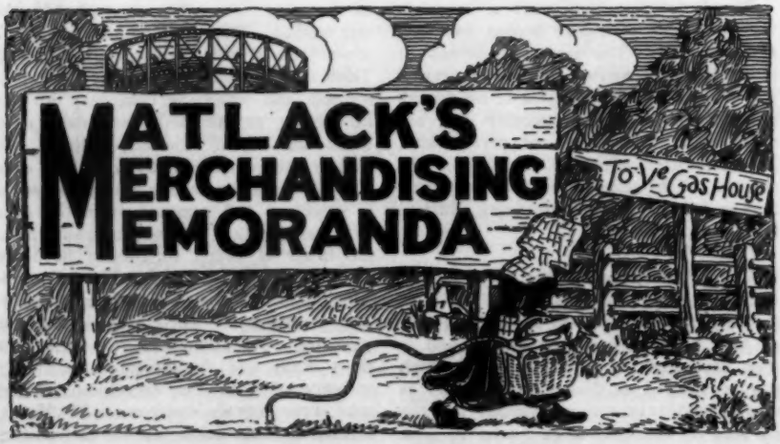
INVESTIGATIONS ON CARBONIZATION AND GASIFICATION

These investigations were concerned with the explanation of the idea, efficiency, from a practical standpoint. The significance of the maximum and minimum heat value of a gas was also explained. Details of the determination of the consumption of heat in a bench of ovens with separate producers for heating purposes and also of a gas-heated oven installation are given. The heat of decomposition of the coal is taken into consideration in these determinations and the influence of the gas used for heating purposes on the transmission of the heat through the oven walls is taken into account.

Various interesting conclusions are drawn from this investigation. It is stated that it is very difficult to determine accurately the thermal efficiency of gasification installations and the consumption of heat in carbonizing apparatus. In gasification apparatus the upper heat value of the gas and the efficiency based on this forms a more correct ground for comparison. However, practical conditions make necessary the determination of the lower heat value of the producer gas and the efficiency of gasification based on this value in studying oven installations which are fired with producer gas.

Oven installations used for the coking of coal are considered differently in accordance with the manner of their construction. The thermal efficiency of such installations cannot be determined in a manner that is free from objections. Hence the heat consumption is rather established, based either on the amount of fuel used in underfiring per unit weight of coal coked or on the B.t.u. in gas form per unit weight of coal.

It is also indicated that the composition of the different kinds of gas used in heating the coking installations as well as their effective flame temperature cause different conditions of heat transmission through the walls of the oven. Hence there is also a variation in the effectiveness of the utilization of the heat furnished to the oven. Thus it has been established that an oven heated with coal gas apparently requires less heat than one heated, for example, with blast furnace gas. Dr. O. Peischer, Das Gas und Wasserfach, 1928, pages 247-52.



STUNTS THAT PRODUCE

A Southern gas company recently had everyone in town talking about a special sale of gas ranges by employing Boy Scouts to hang a tag announcing the sale on the door knobs of all their customers. The boys started their work at 6 a. m. in order that the housewife would get the message the very first time she opened the door in the morning.

Another stunt that has been used successfully also comes from the South. E. D. Brewer, Ruud representative, secures the names of a dozen or more prospects for care-free water heaters wherever he is staging a sale, and to these he sends a telegram urging them to take advantage of the sale that is being put on. The scheme is a good one, for it works.

GIVING APATHY THE KAYO

Speaking of phrases and terms, the term "customer resistance," after all is said, is just a new way of alluding to old man Apathy,—or hookworm. When you find a way to get folks to move toward the dotted line you have overcome and dissipated all of said things. As we view it, the most successful way to do that is to move one's self about a little oftener.

Expose yourself and your merchandise to more sales, and the law of averages will overcome old apathy, hook-worm or customer resistance.

ADVERTISING COPY SUGGESTION

Here is a suggestion for the gas man who is confronted with the task of making a small advertising appropriation do big work and stand out with the great and small in the daily newspaper.

As will be seen at a glance, this layout is so arranged as to permit the maximum number of illustrations, text and display, and while the ad is laid out to occupy two columns by approximately 200 lines such a layout cannot be hid in any newspaper, regardless of the mechanical make-up employed by it. There is enough white space around the

illustrations and text matter to make them stand out, and in addition the six-point rule border, mitered at the corners, is an assurance that there will be no crowding. If bold-face type is used for the heading, letter-spaced across the full face of the advertisement, and type no smaller than 8-point is used for the text, it will have the very pleasing two-tone black and gray effect so much in vogue today.

THE AWAKENING

It seems that more and more managers are giving the matter of merchandise sales due thought and consideration. The realization that all other departments exist because of merchandise sales seems finally to have percolated through the entire organization. One effort to increase merchandise sales and thereby gas sales that has come to our attention is a sale conducted by the young ladies of a Western company. Twenty girls in this organization recently sold twenty-nine waffle irons, one hundred and eighty gas toasters and one hundred and fifty cake pans. Each of these items helps materially to build up the per meter sales of gas and at the same time instill the selling idea and its importance to the whole organization into the minds of employees who heretofore were disinterested in sales.

THE SEAT OF THE DIFFICULTY

If a floor sales person is overburdened with soft seats it frequently happens that customers will be heard to complain of "lack of attention." Of course, our business is different; yet we often wonder how the real merchandisers get away with it—how do department stores keep their sales force at attention?

TEAMWORK

Copping sales by employee co-operation is a mighty fine way to build boosters among your own employees. Here is the way it is done: Groups of employees are assigned quotas on various appliances over a given period, a captain is appointed and prizes are posted. Then everybody gets into the selling end of the business for thirty days. As a usual thing the first sales are made to employees by employees—thereby gas company employees begin to take their own medicine. They like it, and the

first thing you know they sell their friends and finally they sell all comers. We know of a group of girls in a midland gas town that have conducted such sales for three or four consecutive months with wonderful results. It is worth while to get them (all employees) interested in the selling end of the business. Try it, and do not give up if their first effort seems weak. They have to overcome timidity before they can sell, and this is not done as a rule with a single gesture.

MEDITATION BLUES

Speaking of men who make you meditate, how about the fellow who dashes cold water on any idea simply because it calls for an expenditure of money to put it over? You know what we mean, the bird with the accounting complex, who, after all, cares not a tinker's dam what it costs in dollars and cents, but who figures that it means more bookkeeping, more records, more bills to pay. It's the old story of letting the tail wag the dog.

Don't do that, you merchandisers.

HANDS OFF!

"It seems to me," said the Old Timer, "that if some of the engineers, power experts and statisticians would use a little common sense and hold their tongue and keep their hands off, when they go into a sales meeting, and let the man with merchandise experience do the work he is employed to do and for which he is paid, they would be surprised how much better the job would be done."

PLAN AHEAD

Why so many sales campaigns are only eighty percenters may be attributed to the fact that plans are not laid well in advance of the sales and that in most cases, where they are laid, that they are not based on any study of the season, market and the method of follow-up. We have never heard of a decisive battle being won by a general who planned his campaign after he got his army into action.

BELIEVE IT OR NOT

Kelvinator says, "It is a known fact that people must be made to look before they will buy." Then it adds, "A window display of playing cards in a New York store sold out that particular kind of playing card in two days, and sold all the New York warehouse had in the next two days, and also sold all that the manufacturer had on hand of that particular brand in the next two days following."

"The Liggett Drug Stores of New York sell perfume valued at $1,000 a bottle through no other medium than window displays."

"In another store, nearly $400,000 worth of alarm clocks were sold during the time that alarm clocks were featured in the window."

What are you doing with your windows? Are you changing them frequently? Are you putting in timely trims? Are you displaying ranges, water heaters, incinerators, laundry dryers, toasters and laundry stoves, refrigerators, gas boilers and furnaces in their proper setting? We know a gas man who sold out a certain type of gas range during the month of February by displaying them in his window. The big thing about this man's display was that he spent no extra money in display material; he simply played up ten or fifteen features embodied in the range. He did the obvious thing, and, in so doing, made sales—bludgeoned the American apathy, sometimes called customer resistance.

LOOK 'EM OVER

We want some of you gas men who write ads to glance at the two we are showing here from Dallas, Texas. Look 'em over and read 'em and try 'em on the Mrs.

These advertisements were written and laid out by Miss Lois Upshaw, advertising manager of the Dallas Gas Company, and it is our opinion that they illustrate a new trend in gas company advertising. We do not know upon which page of the newspaper these ads appeared, but we do feel that they would arrest a lot of attention on the woman's page or the household or society page.

By the way, the illustrations are such as may be had from your newspaper without cost. Just say, "Let me see what you have in your service that I can use," and you'll be surprised. We do not know whether Miss Upshaw wrote her copy to fit the illustration or fitted the illustrations to the copy.

Narrow Southern heels . . . a Dallas industry
SLIM ankles, it turns out, can be won or lost on the boarding forms at the stocking factory. We learned this much on our visit to the Texas Hosiery Mills. Our women friends are cheered by the news that the latest model boarding forms (metal legs that shape and dry the freshly dyed stockings) have narrow heels, and that protects from wrinkles that most distinctive line of the Southern woman's foot . . . just behind the ankle.
Derby Ribs at 25c
We grow them making babies' Derby rib stockings of long-staple cotton at the rate of 600 dozen a day, that sell for 25 cents. They are good-looking, especially on the natural color, and even a tomboy baby would have to work a long time to wear them out.
Bagged Chiffons
This mill is one of the city's new industries, and ships men's and women's silk hosiery and babies' cotton stockings to many parts of the country. In the round dye machines of stained metal, American vegetable dyes swish through the bagged chiffons in the season's fashion shades . . . Dust, Coffee, Shadow, and so on.
THE DALLAS GAS COMPANY

Is your house "padlocked" in spots?
ARE there "cold pockets" in your house, that practically padlock some of the favorite spots around the place?
For instance, the window-seat in the boys' room . . . is it beyond the stove zone? The big chair by the grandfather's clock; the south window in mother's room: the telephone corner upstairs . . . are they "cold pockets?"
For That Winter-Bound Feeling
With a gas-designed heating plant, you can have a luxurious, all-over indoor climate, no matter what the weather. The clock regulator keeps it bland as a May morning. Your family enjoys the sun of the whole place, without that winter-bound feeling.
Every Inch Friendly
For a liveable house, friendly from front to back, install a gas-designed heating plant—Warm Air, Steam, Vapor or Hot Water.
Your Dallas gas makes it lower in price than any other system.
For Sale by Manufacturers' Agents
THE DALLAS GAS COMPANY
Dispensers of Natural Gas

TO ALL SALESMEN

"For the Colonel's lady an' Judy O'Grady
Are sisters under their skins."—Kipling.

Caleb Culpepper prided himself with the idea that he was a salesman. He "knew human nature," so he said; "was a keen judge of it"; could pick the "live ones" the minute he came into contact with them.

Caleb did sell 'em, we'll admit, and before we began to study him and his methods we were of the opinion that he was a hundred percenter. But we changed our mind, the cause being as follows: One rainy cold day in the late Fall Caleb was given a prospect card on which was written, "Prospect for a water heater." The address indicated that the prospect lived in a part of town that was considered not so good. (You boys know what we mean.)

"This," said Caleb, "is a wild goose chase on a wet day, but I'll go out." We suggested that we go along, to get a little air, and Caleb acquiesced. Our ring at the portal of the address given brought an oddly garbed foreign woman to the door, answering to the name turned in on the card. She admitted that she wanted to purchase a water heater, and Caleb proceeded to explain the merits of a tank or circulating heater to her. He was getting along fine; in fact, he had reached for his order book when the woman in broken English said, "And it's a self-runner, and for what is the price."

We sensed immediately that Caleb was in hot water; for once at least his judgment was "all wet."

It developed that this woman was an up-to-date home manager and that she wanted Hot Water service; as she expressed it, "a one what runs all-time," and that is what Caleb wrote the order for, and after signing it she paid for it in cash.

We relate this to indicate the fallacy of snap judgment in sizing up customers. The past few years have seen the standards of living greatly changed and today the manager of the world's greatest institution (the American Home) wants all that her money can buy in home conveniences. The Colonel's lady an' Judy O'Grady are sisters under their skins"; and it's poor salesmanship not to try to sell them all.

When a prospect crosses your path, assume that he wants the best and show him the highest price appliance you have. If this practice is followed you are almost sure to make bigger sales than if you proceed from a lower price upward.

Satisfied customers mean more key customers, and more key customers mean more copy customers, and more copy customers mean more sales. Sell 'em and satisfy them.

Yours for the high ones,
SALES MANAGER.

P. S.—If you have prospects that you did not find at home in the morning, use the 'phone at noon,—some of 'em go home to eat.

SPEAKING OF SEASONS

Follow-up of advertising again scores.

Herbert Gill, sales manager of the Washington, D. C., Gas Company sold sixty-seven automatic water heaters between January 3rd and February 10th,—and the weather was cold and furnace coils were eating coal and everything. Gill did it thusly: He hand-picked 4,000 names and he circularized them and then his men hot-footed it out to try to cover the list. Of course, they did not see them all, but, as we have said before, they sold sixty-seven water heaters while the average fellow was waiting for the weather to warm up. This again adds strength to the idea that toys can be sold at other than Christmas times and similarly water heaters, gas ranges or refrigerators know no season to the salesman.

A DOSE FOR SICK SALES

Below is reproduced a little chart that will give you merchandising managers and you gas engineers who are not entirely sold on merchandising something to think about. Do as "Ruud-iments" suggests—put it under the glass on your desk and ask yourself the questions: "Is our rate right for water heaters?" and "Are we thinking as a merchandiser?" Try it out sixty days and if something don't happen, forget it.

CASH IN

The Cleanliness Institute is helping sell hot water service to gas users. In this connection, have you noticed what they tell you soap and water will do, and, if you have, have you tied into their campaign and promoted the use of HOT water?

CARE-FREE

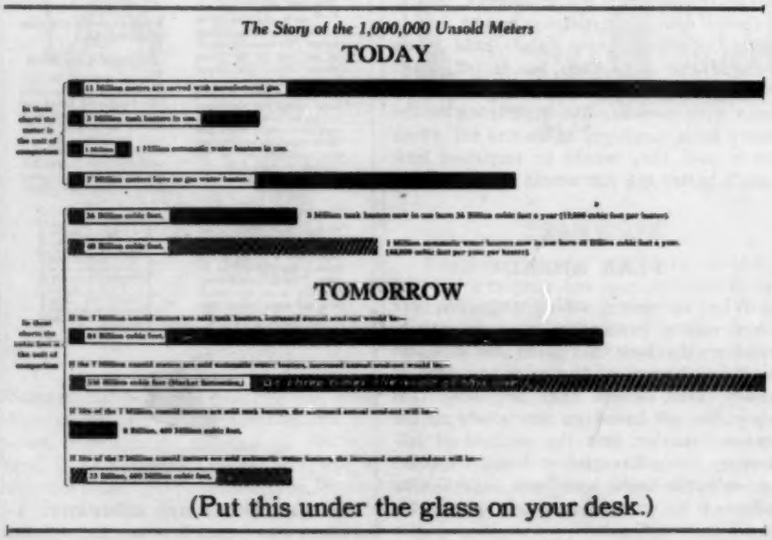
We think we have coined a new one —CARE-FREE; and we are using it in connection with our water heater advertisements, our house-heating advertisements, and our gas range advertisements: Care-free fuel, care-free gas ranges, care-free water heaters. It seems to us more and more people are care-free today than at any other time in the history of the world, or want to seem to be, so why not give them care-free gas appliances and care-free fuel.

HOW TO CASH IN

Speaking of window display advertising, the Cleanliness Institute people are going to make folks come clean. Of course, this will call for the use of hot water along with the soap that is 99 44/100 per cent pure, which "keeps that school-girl complexion" and "the skin you love to touch."

Why not push the idea with a great cake of soap, a jar of cold cream, a Turkish towel, a girl, a gas water heater and a window card with the wording, "Of what value are all of these to her unless she enjoys the use of hot water service in her home? The Gasco Automatic Water Heater is the economical way to provide real hot water service."

Here is a chance to cash in.



(Put this under the glass on your desk.)

Lettering Is an Important Element of the Successful Window Display Advertisement

By Ray Martin

Chairman Window and Store Display Committee, American Gas Association.

PROBABLY one of the most economical purchases a utility company can make is good lettering. It must be closely co-related with the mood of a window display and must be a part of the general design. Good lettering is as different from sign painting as window display advertising is from window dressing.

The best hand lettering commands a price, but it is invariably worth more than its cost, because whenever we attempt to create the desire of possession or sell an idea, the copy, in the final analysis, is the all important element of the display. To be sure, the artistic presentation and balance of a window display are important, but these are primarily to entice the passerby to a position where he or she can read the message we are endeavoring to present.

If compelled to write a formula for a good window display advertisement this writer would probably specify a glorified type of heroic size card, plus a goodly amount of color and design.

In New York City expert letterers receive as much as $10 an hour. This may seem exorbitant, but the fact that there are a number employed at this figure is indicative of the value modern advertising places on lettering.

Today it has a definite place in the sun, and calls for as much specialization as any other phase of art.

Common Sense in Advertising

By Charles W. Person

Secretary, Publicity and Advertising Section, American Gas Association

WHEN a business is under criticism for wastefulness, it faces a charge of serious nature. Advertising has been so criticized.

What has advertising done about it? It has taken the question, "How can the advertising dollar be spent to best advantage?" and, by means of organized research and analytical study, has given an answer that is irrefutable. The basis for that answer is cold, hard fact, backed up by the prudent expenditure of hundreds of millions of dollars and a checking and rechecking of results.

The Right Approach to Advertising

In language reduced to terms of an elementary nature, we are told that the primary requisites to a program of productive advertising are:

1. Know your market before you advertise. Know it by means of a market analysis, survey, study or whatever you choose to call it—but know it.

2. Make up an advertising budget and stick to it. In other words, appropriate a certain definite amount of money for certain definite objectives, and stick to those objectives.

3. Split up the advertising budget into definite amounts for different kinds of advertising—newspaper, direct-mail, outdoor, window display, and so on.

I will not discuss the first or third requisites. They are subjects for individual and specialized treatment. Instead, I shall deal almost exclusively with advertising based on the budget plan.

What Budget Advertising Is

Advertising in accordance with a budget system is not a new kind or breed or specie of advertising. It is merely advertising based on a predetermined appropriation, into the making of which has gone much thought and preparation. One purpose of the budget is to bring up the company's advertising objective for analysis at least once a year, fix a scale of effort commensurate with the apparent needs of the business, and then proceed in an orderly way with the execution of the advertising program.

Budgeted advertising is nothing more or less than applied common sense in advertising. It is business-like advertising. Finally, it is systematized and sustained advertising.

It is not likely that a gas company with an advertising program planned in advance under the budget system would suddenly break out in one day's issue of a newspaper with advertising measles and then have no message to advertise in that paper for several weeks.

Benefits of Budgeted Advertising

The budget plan enables one to check advertising expenses month by month, or day by day, if desired, and is an incentive to continuity and the judicious use of the various media of advertising. The budget plan will not permit of three or four mailings a month to the same customer lists by the various departments of a gas company, and then have a period of from three to six months during which nothing is sent out.

The economy of an even gradation of advertising power nicely fitted to the needs of the business over a period of time, is assured when a gas company at stated intervals, or at least once each year, sets up definite objectives and then goes after them with a planned, budgeted program of advertising.

Under such an efficient system, you may be sure that advertising will not rise or fall with the whims or fancies of any one individual; you may be sure that it will not be discontinued suddenly, or stopped temporarily or played with. It will ride an even course, and at the end of the year will show a nice return on the original investment—all because it has been conducted in accordance with established business principles.

Expediency Advertising

Expediency advertising is the antithesis of budgeted or planned advertising. It was a very popular form of advertising in the gas industry as recent as ten years ago, and it still enjoys a very considerable following.

Expediency advertising starts in a hurry, gets all blown up and then flops. It makes a loud noise when it gets started, but when it dies it makes no more fuss than a dud. There is no systematic, sustained effort behind expediency advertising. That is why its death rate is so high. Need it be emphasized that the millions poured annually into non-productive advertising are contributed for the most part by the devotees of expediency advertising?

Let us look at the gas business and see if we can discover whether it advertises in accordance with a plan or in accordance with expediency.

Surely one cannot say that the industry generally does not operate according to modern standards of accountancy and established business practice. Is it possible that those in executive authority would permit gas companies to spend money for advertising that is not planned or budgeted or systematized so that the expenditure can be checked for results from time to time? Surely, the ripe old gas industry, so keenly alert to search out and stop financial and all other kinds of leaks, cannot be accused in this modern day of an inefficient and wasteful use of the advertising dollar!

Let us look at the facts.

How Gas Companies Advertise

A questionnaire was issued very recently to thirty gas companies situated in Connecticut, New York, New Jersey and Pennsylvania. These companies were chosen at random. The largest serves 52,000 customers; the smallest, 1,400 customers. All together the 30 companies serve 637,000 customers, and the annual gross revenue is $27,574,000. This is a fairly representative slice of the gas industry, according to the law of averages, and it may be said to reflect, at least in a general way, conditions obtaining throughout the industry.

Of the 30 companies solicited, 19 operate their advertising under the budget plan. Moreover, 16 of the 19 split up the budget into specific uses for the advertising dollar. These companies are advertising in a common sense way. They know what they are doing.

On the other side of the fence, however, we have 11 out of the 30 companies who do not budget their advertising—who do not even appropriate a definite amount of money for advertising. No orderly plan or sustained program worthy of the name—simply money spent for advertising, probably a large part of it for expediency advertising.

These 11 companies serve 262,000 customers, and their annual gross revenue is about $12,000,000. They constitute 37 per cent of the companies reached by the questionnaire. If the survey were extended to cover the entire industry, would it show results of a corresponding nature? The writer believes it would.

Here, then, is revealed an unpleasant pic-

Address delivered at 6th Annual Meeting, Eastern States Gas Conference, Newark, N. J., April 4-5, 1928.

ENGINEERS *and* BUILDERS GAS HOLDERS *and* TANKS

THE Stacey Brothers Gas Construction Company is completely equipped for the accurate and expeditious fabrication and erection of Superior Low Pressure Gas Holders of all capacities.

THE 10,000,000 cubic foot Natural Gas Holder recently completed at Long Beach, California, in the unprecedented time of Five and One-Half Months for the steel construction work, and the universal praise for the workmanship and methods employed thereon substantiate our claim to pre-eminence in this highly specialized field.

IN the field of High Pressure Storage we offer our "STACEY BULLET" embodying the features of attractive appearance, sound engineering design and low cost.

WE respectfully solicit your inquiries on Low and High Pressure Holders, Purifiers, and High Grade Steel Plate Work. Let us prove to you, as we have done to many others, our

"ABILITY TO SERVE"

CINCINNATI, OHIO

JAMES E. STACEY, Pres. ANDREW J. STACEY, Vice-Pres. WAYNE STACEY, Gen. Sales Mgr.
ARTHUR A. POPE, Sec. and Treas. WILLIAM A. MILLER, Chief Eng. P. C. RODGERS, Asst. Sales Mgr.

NEW YORK OFFICE—75 West Street—P. F. McEnaney, Mgr. Tel. Bowling Green 8186

New England Representative—Eastern Service Co., Boston.

"KLIXON" Snap-Acting Thermostats for Automatic Storage Water Heaters have met with instant recognition and approval by Manufacturers everywhere.

From the oven door of a Maine Lumber Camp

When John Alby Spencer was fifteen years old he was employed on the night shift of a little lumber camp in Northern Maine. His principal job was tending the fire in an old wood-burning steam boiler. The fuel burned so quickly that young Spencer had to step lively to keep his gauge up.

Being an observant youth he noticed that when his fires were going nicely the old clean-out door would belly out with a loud report and when cooled off would snap back into a concave position. This gave Spencer an idea—in fact, *the* idea.

He placed a log against the door and awaited results. Sure enough, when his fires died down the versatile plate snapped back into shape and signalled its need for fuel by kicking the billet to the floor.

Johnny Spencer carried the idea of the old clean-out door in his head for eighteen years, turning over the principle in his mind and searching for a practical use to make of that phenomenon. During these years Spencer acquired a thorough knowledge of mechanical engineering and after a decade of experiment, tinkering and studying, he worked out his idea in the form of a little bi-metal disc known as the Spencer KLIXON Control or Thermostat.

"The Million Dollar Thermostat"

"He Who Understands Most is Other Men's Master."—OLD PROVERB

In addition to its being one of the best equipped in the world, the Research Kitchen of American Stove Company is under the direction of one of America's foremost cookery authorities.★

★ **Miss Dorothy E. Shank, M. A., formerly Instructor of Food Research, Household Arts Department, Teachers College, Columbia University, New York City.**

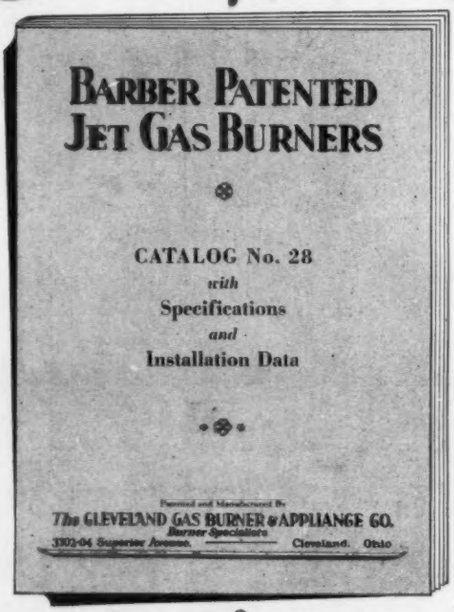
AMERICAN STOVE COMPANY, *801 Chouteau Avenue,* St. Louis, Mo.
LARGEST MAKERS OF GAS RANGES IN THE WORLD
These are the Six Famous Brands of Red Wheel Gas Ranges:
DANGLER · CLARK JEWEL · QUICK MEAL · DIRECT ACTION · NEW PROCESS · RELIABLE

LORAIN

HAVE YOU RECEIVED YOUR COPY OF THIS CATALOG ?

AMONG THE MANUFACTURERS WHO HAVE ADOPTED BARBER BURNERS AS STANDARD IN THEIR HOT WATER HEATERS, BOILERS AND APPLIANCES, ARE THE FOLLOWING:

Akron Equipment Company
American Radiator Co.
Armbruster & Betlem
F. C. Barton Co.
Bastian-Morley Co.
Bean Spray Pump Co.
Bryan Steam Corp.
Carrier Construction Co., Inc.
Coast Heater Mfg. Co.
Champion Dish Washing Mach. Co.
Day & Night Water Heater Co.
Economy Heater Co.
The Electro Weld Co.
R. E. Fraser & Co.
Firestone Tire & Rubber Co.
Franklin Plumbing Supply Co.
Geneva Heater Co.
Gewert Mfg. Co.
E. A. Hibbs
Hoffman Heater Co.
Hollywood Water Heater Co.
Hotstream Heater Co.
Hoyt Heater Co.
Edward Katzinger Co.
John Trageser Steam Copper Works
Lovekin Water Heater Co.
McCann-Harrison Co.
Walter Mork Co.
Marlow Mfg. Co.
Merit Mfg. Co.
Newell Mfg. Co.
New Way Mfg. Co.
Northwestern Steel & Iron Works
The Ohio Heater Co.
Geo. F. Reichman & Co.
Safety Water Heater Co.
Sands Mfg. Co.
Schwab Boiler & Machine Co.
Snap-O-Stat Co.
Star Dee Water Heater Co.
Stinson Sales Co., Inc.
United Heater Corp.
Vernon Edler Corp.
Ward Heater Co.
D. D. Wessels & Sons Co.
The Wise Furnace Co.
Welsbach Company
Weil-McLain Co.
The Williams Fdry. Machine Co.



Thousands of copies of the new Barber Patented Jet Gas Burner Catalog have been mailed to Gas Companies and Heating Engineers in all parts of the country.

If you have not received your copy, write for it today. It contains much data and other useful information on CONVERSION WORK that will enable you to quickly convert any Coal or Oil-fired Steam, Hot Water, Vapor or Warm Air heating plant into a Gas-fired system—at small cost to the user and good profits to you.

Barber CONVERSION Burners possess many exclusive and outstanding features. They offer you the easiest method of effecting the transition from COAL and OIL heating to GAS HEATING. Hundreds of your customers are ready for you to install Barber Gas Burners in their present heating equipment. No new furnace or boiler is necessary.

GO AFTER THIS CONVERSION WORK RIGHT NOW! WRITE US TODAY.

The CLEVELAND GAS BURNER & APPLIANCE CO.

Burner Specialists

3702-04 Superior Avenue, Cleveland, Ohio

ture for the contemplation of those who claim that the general run of gas company advertising is in good health. If an average of about 35 per cent of gas company advertising lacks systematic planning and execution, you may be sure that it bears all the earmarks of wastefulness, the degree of waste depending upon a number of variable factors. Some part of it may be productive, but all of it stands indicted on the charge of breaking the established laws of good advertising practice.

Where the Remedy Lies

There should be no place in the gas industry for expediency advertising or any other kind which runs counter to sound economic principles of modern business administration. There are a number of ways in which to stop it. The subject should be discussed at meetings like this. It should be featured in articles and editorials in our trade press. And the leaders of our industry, otherwise so scrupulous in ferreting out and eliminating waste by means of modern accounting and budgetary control, should pay more attention to the advertising habits of their companies.

Finally, when it becomes better known in the gas industry that an executive who permits his company to advertise without an appropriation or budget is displaying in behalf of himself and his company a lack of good business judgment, we may expect to see advertising achieve for us some of the things it is doing every day for other industries which adhere to a policy of sound planning and effective budgeting of advertising expenditures.

How to Sell Laundry Equipment

By Acheson Lucey

Consolidated Gas Company of New York

THE luxuries of one generation, due to ever changing modes of living, become the necessities of the next.

Although in the merchandising, advertising and selling of laundry equipment we have not to contend with the problem of creating a fundamental desire, as is the case with a purely luxury product, we are continually confronted with the task of directing that desire to a preference for the gas operated device and its advantages.

With this fundamental desire for an easier method well established, as it is, and the changing social background of the country steadily and inevitably advancing the labor saving laundry appliance to a place of absolute necessity in the home, our merchandising, selling and advertising efforts concentrate to make the best of these existing circumstances.

We may readily assume that every householder associates hard work with the tasks in the laundry, and is, therefore, a highly susceptible prospect for a labor-saving device; but of this majority there are a great number of live sales possibilities who must be separated and brought into immediate personal contact with the different appliances.

In one of the smaller districts in New York a seemingly bold idea was hit upon, whereby a day's washing was offered free to demonstrate the efficiency of the washer. The offer was not accepted to any great extent, but the distinct personal appeal aroused much interest.

Another instance where a direct appeal to the interested person was made was the utilization of a window display showing an entire modern home laundry in actual operation. The appeal of the moving demonstrators attracted much attention, and from the subsequent inquiries and sales it was clearly demonstrated that the tidiness feature, which can only be displayed by the machine in actual operation, was a convincing factor.

Quite recently the Consolidated Gas Company of New York decided to conduct an exhibit of laundry appliances in all of its district offices. In each of the district papers devoted to community happenings, an advertisement appeared. This advertisement was something that was more than an announcement—it was a personal message that suggested carefree days to come. The exhibit was a success, and the throngs that visited each office and were brought into personal contact with each appliance disclosed the fact that community interest in such affairs can be aroused to a high pitch.

Of course, the vast majority must be kept informed—must be constantly reminded that such a thing as a labor-saving laundry appliance exists, and that the gas operated appliance offers the best advantages. In most cases a house-to-house canvass is out of the question. An alternative presents itself in the consumer lists at your disposal.

A direct mail campaign can accomplish many things; it has that personal, confidential touch necessary to introduce time-payment plans; it is the ideal medium for an educational program to break down the luxury idea—to popularize gas as the modern method—to build the luxury idea of greater pleasures and more time available through the use of the gas operated appliance. With a campaign of this sort well under way, a valuable background is built for a strong newspaper campaign extolling the individual superiorities of each appliance.

Whereas it may be impossible to canvass the individual home, there are many places in every salesman's territory worthy of a personal canvass—hotels, gymnasiums, swimming pools, private institutions, small laundries, churches, clubs, restaurants, etc. Many of such places are modernizing their entire establishments and will be extremely interested in the time-saving, labor-saving, gas-operated laundry equipment.

Send specifications of each appliance to architects and builders. Investigate every possible lead. Remember, our competitors are studying the market as well as we, and their appliances offer inviting features as well as ours.

Know your territory and its people—get there first!

Gas Making Inroads

In a recent release of "The Coal Market," issued by the National Association of Purchasing Agents, New York City, the following, relative to anthracite coal, appears:

"Dealers in the retail trade are a little busier than they were, but are holding up purchases from the operators because they expect a reduction in prices this Spring, and want to be in a position of having very little coal in the yards at that time. There is no question but what substitutes for anthracite, such as oil, gas, coke and other foreign substitutes, have made a great inroad into the business formerly obtained by the Pennsylvania hard coal operators."

Gas Furnaces Now in 118,000 Homes

More than 118,000 homes throughout the United States are now being heated with gas instead of solid fuel, according to a statement by R. H. Beaton, president of gas utilities properties in the Associated Gas and Electric System. Practically all of these units have been installed within the last few years.

"This latest application of gas has solved an important problem for thousands of people, and promises to abolish innumerable coal furnaces in the homes of the country within the near future," says Mr. Beaton.

Apperson Appeals to the Eye Instead of the Purse

By Charles N. Tunnell

Display room of the Austin, Texas, Gas Company where the appeal is made to the eye of the prospect

S. M. APPERSON believes in fair prices, but finds that the appeal to the eye is worth more than the appeal to the purse in making sales of gas ranges and other appliances. Apperson is superintendent of the commercial department of the Austin Gas Company of Austin, Texas. Although Austin has only six thousand five hundred meter connections, Apperson has been able to do a sales volume in gas appliances that is not surpassed by many retailers with several times the number of prospects.

In the first place, this sales superintendent finds that the present day woman buys the gas range. Her husband and the other members of the family may enter into the selection of water heaters, and other appliances, but it is an unwritten law for the woman to be the sole judge in the selection of a range or whether or not she had better continue to use her present one. This retailer demonstrates that the average salesman for gas ranges goes out to convince his women prospects that they are losing money by not purchasing a particular brand of range for economy.

The Salesman's Suggestion

It is true that the six salesmen working for Apperson show their prospects that many of their old stoves are not giving the service that a new one would and that a new range would pay for itself in savings within a reasonable length of time. But the suggestion from any of these salesmen is not, "Don't you think this is the most serviceable range you have ever seen?" but rather, "isn't it the prettiest thing you have ever seen?"

Apperson points out the fact that modern women do not buy a new dress, hat or even an automobile on the basis of how long it will last. It is the touches of beauty that they want and are willing to pay for. It might be considered that gas ranges do not spell a great deal of beauty, but when the six salesmen for this firm work their respective districts beauty is the key-word to their sales effort. Every woman is encouraged to give some thought to making her kitchen more attractive. It is pointed out that modern kitchens now carry various color schemes and are made as beautiful as other sections of the home. Each prospect is assured that the range is the center of attraction as well as work, and that a new range to replace the old unattractive one will make the kitchen outstanding and do much towards making work pleasant.

What the Salesroom Says

The display room of this firm is kept talking, so to speak, in terms of appealing ranges, and appliances. Every woman of the city is encouraged to frequent this display room often, to see the latest showing of merchandise regardless of whether she is interested in buying something or not. At such a time the saleslady in charge of the display obtains as much information as possible regarding the color scheme, architectural plans and other bits of information regarding the prospect's individual home. This information is then given the salesman of the district for a personal follow-up. His suggestions are concrete. When he says, "Mrs. Smith, you should have one of these new ——— color ranges that we have just received," he knows that Mrs. Smith's kitchen has just such a color scheme that the mentioned range will harmonize. The prospect is often surprised to see someone that knows the details of her home; which goes to inspire confidence as well as appreciation of the personal interest that has been taken in her case.

The Newspaper's Appeal

Continuous newspaper advertising prompts the housewives of Austin to give more thought to the range. This advertising sets forth the other merits of the ranges, but special appeal is made in the way of attracting the eye. One answer does for the service questions that are asked by the prospective range buyer—"We personally guarantee that our oven linings will not burn out." Apperson finds that that is the extent to which a woman is interested in the lasting qualities of a stove; she is more interested in whether or not it will actually fit into her decorative scheme to the extent of making her kitchen as pretty as that of some friend.

Apperson does not offer his sales plans as being a short cut to big volume, nor the only successful merchandising system. He does know that this policy has been a controlling factor in helping his force of six men sell one hundred and fourteen ranges within nine days of the month of February during a special campaign, while his force sold a total of ninety ranges in December, 1927, and two hundred and nine ranges from January, 1928, to March 1, 1928. Sixty automatic water heaters were sold during this time, with a corresponding volume in other appliances, which demonstrates to this retailer that modern housekeepers had rather please their eye than their purse.

Can Home Service Be More Than a Cooking Program

By Ina B. Rowe

THE home service programs of most gas companies seem to center largely around cooking. Is this inevitable? Might the programs be extended to include load building activities other than cooking? Would this be desirable?

"Yes," is the answer that most executives and home service directors would give to each of these questions. Then the question arises, How can the programs be successfully broadened?

Historical Basis

The reason that home service is chiefly a cooking program is partly historical. A few years ago there was some alarm among gas companies at the apparent falling off in the cooking load. It seemed that the entire feminine half of the home combine was accepting literally the invitation, "Come out of the kitchen," and was about to walk out in a body on all their home responsibilities, callously leaving the "cooking load" to shift for itself.

The cooking load had been one of the mainstays of the gas industry, and to see it fall away, due to the inroads made by the delicatessen, the restaurant within walking or motoring distance, and the growing acuteness of the servant problem, naturally created concern.

"What," asked the industry, "can we do about it?"

"If," answered a few within the industry, "we are able to show women how to save money, how to make housework easy, how to cook better meals, they will use more gas and the results will show up favorably in the meter sales."

Of this necessity coupled with this hope home service was created.

Perhaps its more enthusiastic promoters have over-rated the eagerness of women to save money and to find the easy way of doing things. The word "economy" never did ring a loud bell calling the women to worship, and that they patiently continue to perform household labor by hard and roundabout methods which they are reluctant to change, is proverbial. Selling a woman a labor saving appliance is as hard as selling motor trucks in Venice. They can't use them. A woman hates to make the mental effort to change a long established habit, and she does not in the least mind the martyrdom which attaches to the idea of household drudgery. Consciously or unconsciously, the burden of household labor is sometimes used as a good alibi for not looking her best when the husband and children come home, for letting annoying events of the day ruffle her disposition, and for having but little time to devote to living as one of the fine arts.

But there is one household task that confronts the housewife 1,095 times every year, and that is the planning and preparation of meals. After she has learned the one way of washing dishes which suits her best, she will employ that routine 1,095 times before another year rolls around. No wonder it gets to be a habit, hard to change! Yet there is no such routine in meal planning. There is no "one best meal." Meals must have variety. The appetities demand it, the change in seasons makes it possible, and the health of the family requires that different food elements be introduced into the diet and proportioned to the body's needs. Whereas an occasional program built up on household management is feasible, food programs will attract day after day because into these can be worked the endless variety which answers the eternal question, "What shall we have to eat?"

Help in Other Ways

But this is not of much help to an executive of the gas company who has water heaters, incinerators, refrigerators, space heaters, gas heated ironers, and other gas using appliances on his merchandise inventory. How can home service help to sell gas water heaters, for instance?

Do you think many women would come out to a program, the subject of which was announced as "The Use of Hot Water in the Home"? A more appealing title might be found for it, but if the idea were there it would be hard to wrap it up in words to make it alluring. A personal invitation with the promise of tea might entice some women out, but there again the real appeal would be the food.

Yet hot water should perform many a household task, and where shall it do so if not on a home service platform? If the home service demonstrator has at her hand a constant supply of hot water the thought may be suggested not one time only, but many times, with each of her food lessons.

I have always wanted to see a small narrow sink, such as is often used in school cooking laboratories, placed at the front of a home service platform. I admit that there are many sound objections to placing a piece of equipment which must be plumbed in, "down stage," but I believe that if hot water were brought out where the demonstrator is working, and not left at an inaccessible corner, the demonstration would reflect its usefulness much more than it usually does.

Instead of soiled cooking dishes accumulating many of them could be rinsed and washed in the course of the demonstration, and the value of scalding and draining them, instead of wiping them dry could be put over without words. Very few women use this method, although most women know of it. It just hasn't made an impression. It is one household reform that must be seen to be appreciated and adopted.

Too Many Recipes

The gas company might profit more if one less recipe were demonstrated in order to give time for this object lesson, and the hot water load used in the home three times every day in scalding dishes would be worth more than the combined load which all of the recipes demonstrated in that particular lesson would create, because of its many repetitions. Yet the inducement which brought the women out would be the cooking lesson.

To put over the hot water idea with the sink at the rear or in one corner of the platform is very difficult, as the demonstrator loses the attention of her audience when she turns her back. This is one of the first rules, holding attention.

Warm water cleanses vegetables more quickly than cold, and is also more comfortable to the hands. Spinach, for example, is less gritty when washed in tepid water. If it can be washed at this small sink with water brought to the right temperature through a mixing faucet, another good point is put over. Warm water may also be used for soaking breakfast food, dried fruits, tapioca, and other foods, and causes them to soften more quickly than cold. Why not point this out at every opportunity? It is these small points which make home service a load building activity, yet they are all a part of a cooking program.

Many a good range sale has been lost because the housewife believed that she needed the coal range for heat in the kitchen in winter. It sounds reasonable, yet think of all the heat that is given off from the gas range as a by-product of the cooking!

If there is a place in the country which would give this method of kitchen heating a better tryout than Minnesota, I hope I shall never know it personally. In several houses in St. Paul and Minneapolis in which I have lived or visited, gas ranges are used and the furnace heat is never turned on in the kitchen. If the weather is moderate there is enough heat given off from the cooking to make the temperature high enough for one who is working around. If the weather is cold, the furnace is overtaxed to heat the rest of the house. The kitchen is therefore cut out of the cycle, and supplementary heat is furnished by lighting the gas oven and leaving the door open. In a short time the room is comfortably warm. Why not? When the kitchen work is done, or usually long before that time, except in the most severe weather, the gas may be turned off and no heat is wasted in keeping an unoccupied room warm with a decaying wood or coal fire.

Drive This Home

This is labor saving and load building combined to a high degree. The coal range is at best a clumsy, sooty affair, but one particularly bad feature is that it often takes up space that could be used by a real labor saver. To eliminate this clumsy appliance entirely puts a valuable additional cooking load on the gas line, and at the same time a very slight heating load.

When the home service platform heats up unduly, could not this possibility be driven home? I am aware that this opinion is not prevalent in the gas industry, even though it might be to the industry's advantage to consider it sound. I am merely offering it as a take-it-or-leave-it suggestion.

The incinerator, too, has a place in a home service cooking demonstration. Some incinerators are built for the kitchen, being set flush with the wall or connected to the kitchen from a chute. Others are built exclusively as basement equipment. In one home service department the platform extends only part way across the front of the room, and the space at the side is made into a very convincing basement, housing the incinerator and storage water heater, and at times other important gas using appliances. This frees the platform from those appliances which are not actually needed in the kitchen, and enables the home service director to put over the idea of kitchen charm as well as the appliances which make this charm possible. A ready means of disposing of waste is as useful to her as it is to the housewife.

The gas refrigerator, of course, has a place which no one can question, both on an equipment and a foods program. Health depends almost as much upon adequate refrigeration as upon proper cookery. The refrigerator certainly is entitled to an important place in the picture.

Problems of cleaning and houuse laundry are all gas consuming problems. It is the experience of many home service departments that a few times a year these will be able to draw out a crowd, especially if the program has some spectacular features and is reinforced with the promise of refreshments. Some of the soap companies employ lecturers who discuss laundry methods in a most interesting and instructive way. The novelty of having an expert in from outside gives an added spur to attendance, and publicity may be built up around the visitor after the director's name has exhausted its early publicity value.

This lecture service is usually free, and may be had by arrangement with the manufacturers. Stain removal, washing of silks, flannels, and blankets, common house laundry are all gas problems as well as soap problems. The gas company has a great deal to gain from a tie-in of this kind.

Can a home service program be more than a cooking program? It can, and yet the cooking is and probably will remain the lure which interests women enough to entice them from their homes week after week, sometimes for several successive years. The way to a woman's interest is through her need for help with the ever present problem of three meals a day.

SMOKE MENACE MAKES US EAT DAILY QUOTA OF DIRT

The American Public Health Association recently passed resolutions directing the attention of all legislatures and municipal authorities to the evils resulting from smoke nuisance and to the need for passing and enforcing such laws as require the installation of smoke-consuming devices in industrial and other furnaces.

A bulletin published by the National Conference Board of Sanitation in cooperation with the New York City Department of Health, contains the announcement that a smoke and soot survey of cities from the Atlantic seaboard to St. Louis has shown New York to be a smokier town than Pittsburgh. The bulletin declares also that New York's minimum smoke tax amounts to $96,000,000 a year.

Announcement is made by the American Society of Heating and Ventilating Engineers that a four years' series of experiments conducted by Howard C. Murphy of Louisville, Kentucky, reveals the fact that St. Louis leads all cities in America for dirt. According to Mr. Murphy, the average resident of St. Louis is inhaling in excess of a tablespoonful of soot and dirt every twenty-four hours. The New Yorker and Philadelphian, he declares, are taking only half as much, but in excess of a teaspoonful per day.

In Mr. Murphy's report, Cincinnati follows St. Louis for the most dust particles per square foot, and then come Pittsburgh, Detroit, Chicago, Indianapolis, Cleveland, Louisville, Buffalo, Baltimore, Milwaukee, Toledo, Columbus, and so on. The figures quoted by Mr. Murphy show, he says, the necessity for some scientific control of smoke and dust, principally as a health measure.

Col. Leonard P. Ayres, veteran statistician of Cleveland, has become interested in the Murphy report and has found smoke to be an expensive habit.

Expense Is Real

"The community expense of the city smoke is more real than apparent," says Col. Ayres. "In places where the air is dirty the expense of laundry work is increased, and the durability of clothing is decreased. Silverware tarnishes rapidly in such atmosphere. There is more work for doctors and hospitals. Shade trees suffer, and all plant life is retarded. Goods in stores become rapidly shopworn. Buildings require more painting and varnishing in dirty cities than in clean ones. Structures of stone, brick, cement and tile require expensive cleanings where there is much smoke with results that are unsatisfactory at best, and only temporarily effective.

"Probably the most serious result of city smoke in a business way is that it is shockingly destructive of real estate values. Well-to-do residents in all the dirtiest cities are leaving the urban centers and moving out into the suburbs. The typical smoky city now has a costly and crowded downtown business center surrounded by a twilight zone that is several miles wide, and inhabited mostly by people who cannot afford to move away. This zone is in turn surrounded by suburbs where people live who can afford to be cleaner. Mr. Murphy has done a valuable service in collecting evidence. The cities would do well to change the conditions."—Gas Progress.

BLUE STAR SHINES IN ST. LOUIS

THE Blue Star of approval shone brilliantly at the Building Materials Show held in the Coliseum, St. Louis, during the week of April 9. To J. J. Burns, chairman of the Commercial Section of the American Gas Association and superintendent of sales of the Laclede Gas Light Company, goes the credit for the "tie-in" the Blue Star secured from this elaborate event. The building show was held under the auspices of the Certified Builders' Exchange and was backed by several hundred building supply companies and 27,000 union craftsmen and laborers in St. Louis, St. Louis County and neighboring cities in Illinois. The St. Louis Star ran a special 32-page section in honor of the event.

Reports estimate that fully 60,000 people attended the exposition, and all of them visited the English bungalow, wherein all types of Blue Star appliances were demonstrated. Aside from the modern bungalow, with its complete equipment of gas appliances, several local dealers, manufacturers' agents and manufacturers had displays and, to quote one man, "this is one of the finest gas shows I have ever attended. As a rule these shows leave too much to the imagination, but here that bungalow gives folks a true picture of what gas can really do toward making the home a more efficient, clean, comfortable and care-free abode for all of us."

The Laclede gave the bungalow and Blue Star quite a lot of advertising and, aside from that, the newspapers were quite generous in their news columns in telling about the event. The reproduction shown here is from a full page advertisement in one of the local papers.

AS MODERN AS TOMORROW
IS THIS ALL-GAS HOME
See it during the Builders' Show in the New Coliseum, Washington at Jefferson, April 9th to 15th inclusive
IN THIS home is the modern servant of today. Silent...invisible...yet always ready. This mighty servant fires the furnace and heats the home with a dry, clean heat that makes no soot, smoke or ashes. It does the cooking even though the housewife may be miles away.
Keeps plenty of hot water always ready. Protects and preserves food and makes ice. Does laundry tasks regardless of weather. Disposes of refuse. Fills the room with a friendly, fireplace heat.
Just imagine a servant that performs all these services and yet asks for only a very small wage. No wonder modern homes are employing this efficient help.
For only a few dollars a month this tireless servant performs the various household tasks. Stays on duty twenty-four hours a day. Never asks for a day off. Never tires. Never gets temperamental or lazy. Always ready to lighten the housekeeping burden and bring more comfort and convenience to the home.
Visit the home in the Coliseum and see what an efficient servant this all-gas service is.
WHAT DOES THE BLUE STAR MEAN
The Blue Star Seal is a symbol of approved gas appliances that conform to the rigid tests of the Laboratory of the American Gas Association. These tests are based on standards of safety, efficiency and durability.
This Blue Star seal of approval means that the gas appliances thus marked are constructed properly, that they will operate with the highest degree of efficiency and economy, that they will hold up and be a permanent source of satisfaction, help and safety. It is not a manufacturer's trade mark but the Seal of recommendation of a century-old industry. Look for the Blue Star Seal.
THE LACLEDE GAS LIGHT COMPANY
OLIVE AT ELEVENTH
CEntral 3600

Home Equipment Primers Available

The General Federation of Women's Clubs has completed the preparation of its series of Home Equipment Primers, No. 5 of which has particular value for gas companies. This booklet is a very attractively prepared 50-page document describing available types of equipment for homes which are within the reach of the principal public utilities, including city gas. Some of the pages from this primer have already been described in the American Gas Journal, on page 63 of the issue for March.

Gas companies desiring copies of these booklets can procure them in lots of one hundred or more at 25 cents per copy plus delivery charges, or single copies for 35 cents each, which includes cost of mailing. Orders should be addressed to Home Equipment Office, General Federation of Women's Clubs, 1800 E Street, N. W., Washington, D. C.

Stresses Value of Smokeless City Over the Radio

Urging all Brooklynites to co-operate with the Brooklyn Chamber of Commerce in its campaign for a cleaner Brooklyn, George M. Kirchmer of the Brooklyn Union Gas Company's staff and chairman of the Chamber's Clean-Up Week Campaign Committee, recently launched a radio drive from Station WLTH in connection with this year's clean-up week, May 6 to 12.

Pointing to the fact that Brooklyn's death rate shows an increase, Mr. Kirchmer declared that this is not entirely due to the borough's increasing population.

"The experts tell us," he declared, "that the sun is our greatest health agent. What are we doing to the sun in Brooklyn?

"Our borough is an industrial center. We have 6,000 factories. Most of them belch forth smoke all day long and many of them continue to do so at night. Some people call this the smoke nuisance. It is really the smoke menace.

"All pictures of the ideal city show a smokeless sky. In such a city the factories and mills operate on smokeless fuels. We must realize, of course, that some day Brooklyn will be a smokeless city, because more and more of the industries are turning to smokeless fuels. That day can be hurried, however, if we all grapple with the smoke problem and work for its elimination."

Association Activities

A. G. A. and affiliated gas associations' sectional activities and convention calendar

Metallurgy to Feature Industrial Gas Course at "Tech."

The Seventh Annual Industrial Gas Course to be held at Massachusetts Institute of Technology, Cambridge, Mass., will be given this year from June 18 to 28, inclusive. The course is sponsored by the New England Gas Association and the American Gas Association.

The major subject to be taken up at the course this year is "Metallurgy," according to J. P. Leinroth, chairman of the A. G. A. Committee on Education of Personnel, which has charge of the co-operation with the course.

The work of the course will be carried on under the direction and guidance of members of the M. I. T. faculty, together with well-known men in the gas industry.

"This course is being sponsored not only for New England men, but also for men from all parts of the East who desire to take advantage of the instruction and facilities offered to improve their knowledge of gas applications in industry," says Mr. Leinroth. "The two weeks' intensive training offers a great deal to the men engaged in selling industrial gas, and it is particularly significant that the executives of our leading gas companies are making it a point to have their men attend.

"Due to the co-operation of the A. G. A. it has been definitely established that the course at M. I. T. will treat only with the technical and academic phase of the industrial gas problem. There is a real need for two types of instruction for men engaged on the firing line of selling industrial gas, and the M. I. T. course fills the technical aspect, while the annual course given by the A. G. A. in New York City in the Fall amply covers the sales and economical side of the problem."

Virginia Utilities Association Affiliates with A. G. A.

The Public Utilities Association of Virginia has become affiliated with the American Gas Association through recent action of both associations.

The Public Utilities Association of Virginia was organized in 1902, with Edgar M. Funkhouser, of Roanoke, as the first president; J. W. Hancock, who now heads the association, was the organization's second president. Until several years ago this organization was known as the Public Service Association of Virginia. In order to further enlarge the scope of its activities, the association last November appointed as full time secretary A. B. Tunis.

The address of the association is 301 East Grace Street, Richmond, Va

CONVENTION CALENDAR

May

6-11 Natural Gas Department, American Gas Association. Annual meeting, Texas State Fair Grounds, Dallas, Texas.

10-11 Accounting Section, Empire State Gas & Electric Association. Annual meeting, Briarcliff Lodge, Briarcliff Manor, N. Y.

21-23 Sixth annual New York Regional Sales Conference, American Gas Association, Lake Mohonk, N. Y. P. B. Wiske, Brooklyn Union Gas Co., chairman.

22-24 Second annual Production Conference, Carbonization, Chemical and Water Gas Committees, Rochester, N. Y., Hotel Seneca.

June

21-22 Canadian Gas Association. Annual meeting, Hamilton, Ont. G. W. Allen, 7 Astley Avenue, Toronto, secretary.

Association Pays Tribute to Ramsdell

The executive board of the American Gas Association paid tribute to George G. Ramsdell, librarian of the association, at the April meeting of the board, held at association headquarters, 420 Lexington Avenue. This was in honor of Mr. Ramsdell's 80th birthday, which occurs on the 30th of April.

Oscar H. Fogg, president of the association, presented Mr. Ramsdell with a beautifully engrossed certificate which conveyed the best wishes and sincere congratulations of the executive board.

The certificate reads as follows: "We of the executive board of the American Gas Association pause in the order of business of our meeting on Thursday, April 12, 1928, to lovingly commemorate the eightieth birthday on April 30, 1928, of an honored member of the "Old Guard" of the gas industry of the United States and senior member of the association headquarters staff, George G. Ramsdell. We take this occasion to wish Mr. Ramsdell many years of health and happiness. The undersigned officers and directors of the American Gas Association present at this meeting are privileged to be his friends." The certificate was signed by every member present.

Mr. Ramsdell is a member of the famous Old Guard of the industry of which only four are living today.

On March 20, 1928, he completed his fifty-first year in the gas business.

EASTERN STATES GAS CONFERENCE HOLDS SUCCESSFUL MEETING AT NEWARK

A VERY large attendance featured the Sixth Annual Meeting of the Eastern States Gas Conference in Newark. The papers were of merit and well diversified. In addition, the interest, as evidenced by the apropos discussion, was well above the average.

Thomas N. McCarter, president of the Public Service Corporation of New Jersey, spoke of the tremendous field for the application of gas.

He set forth four basic lines of effort to which the industry must apply itself in order to take full advantage of the opportunity which lies before it. These, in effect, are cooperation with technical representatives of the manufacturing industries in the development of appliances and apparatus; improvement of gas manufacturing methods to obtain greater economy of production; the creation of equitable and scientific rates; and a combined effort on the part of the entire personnel of gas companies in "selling" the gas idea.

"The economic and social changes taking place in the United States," said Mr. McCarter, "are in the main working in favor of the gas industry. The concentration of population in urban communities, the demand for convenience and labor saving in our homes, the increase in aver-

age incomes which permits of greater proportionate expenditures for and the disinclination toward manual labor, which has been accelerated by the perfecting of household appliances, combine to make easier the introduction of new uses of gas in American homes.

"Modernization of manufacturing methods, which gives efficiency of processes first consideration, concentration of factories in manufacturing communities, and the good record already made by gas in many industrial processes, make the time ripe for a rapid and wide extension of the use of gas in industry."

At the conclusion of his address, Mr. McCarter distributed the McCarter medals to a number of employees who had rendered signal service in cases of asphyxiation. Considerable and well merited applause greeted each of the recipients of this honor.

H. H. Newman, president of the Conference, in his report also stressed the advantages of and the large potential field for gas fuel.

He emphasized the need for employee education to the end that they should be taught to sense the need for furthering the use of gas, aside from merely learning how to do the company's routine work. In other words, he indicated that all employees should be on the alert to talk gas intelligently on every occasion.

The Three Stages

Major Forward's address was particularly animated and contained much of interest to gas men.

He discussed the motives and stages through which any association passes from the time of its inception until it becomes a smooth running organization. In this connection he mentioned that any association or organization passes through three stages:

1st. The back-slapping stage, where the members are glad they started the organization.

2nd. The stage where they start to get down to earth and begin to ask themselves why they started the organization.

3rd. The stage where the leaders bring things to a head and start to map out a definite program of action.

The American Gas Association, he declared, had well passed the first two stages and is at present concerned with and pursuing a definite plan of action that will reflect in better things for the gas industry as a whole.

He stressed the great amount of intelligent research work that is now under way and spoke of the good attendance and serious work of the various association committees.

The outlook of the small business man is not encouraging, he stated, and indicated the trend to larger businesses and the like. But he reassured that the worth of the individual to himself and industry would become increasingly more important and valuable in the larger scheme of things than it could possibly be in a small business.

"Increasing the Use of Gas in the Home," by J. L. Farrell, contained a number of likely points on the much discussed matter of the domestic gas market. Much discussion followed the reading of the paper.

Mr. Farrell discussed the various appliances that go into the home and dealt with ways to further their use and sale. He brought out that before this can be done there must be some definite plan of procedure worked out and followed.

In part, he read as follows:

"First, knowing the present possible uses of gas in the home; all year cooking, water heating, refrigeration, laundry, incineration, and all heating, including central house heating plants, we are confronted with a large field of activity.

For Self-Protection

"If we anticipate being serious-minded about increased gas sales, we shall be obliged for self-protection to determine what can be sold to produce increased load with AVERAGE SALES ABILITY and direct the major portion of our attention to load producing articles easy of sale, and articles difficult of sale will receive secondary consideration. Because of economical conditions, competitive fuel and customer habits, we know it is not practical to hope to obtain all possible gas business in the average home. We further know that without any special effort on our part we do obtain in this section of the country approximately 75 per cent of the cooking load and about 40 per cent of the seven months' water heating load. It just naturally comes to us because of the character of the business. It then becomes a case for common sense to determine what additional load we can get at a cost which would warrant a continuous program of expense and afford to us proper returns."

Advantages of Dehydration

In his paper, "Dehydration," Mr. E. F. Coffman discussed the work that has been done in Southern New Jersey in cooperation with the Research Department of the Koppers Company.

In summing up the advantages of dehydration, Mr. Coffman listed the following:

Eliminates internal corrosion and deterioration of all physical equipment on the system.

Eliminates drips and drip pumping.

Eliminates freeze-ups and stoppages.

Eliminates practically all trouble with service regulation. Decreases maintenance of system. Cuts down complaints to a minimum, thereby giving the best possible service. Affords longer period of service for meters before being brought in for routine tests, as well as more accurate regulation of meters in service.

Estimates given by various gas engineers place the direct savings to be realized by dehydration between 1½ and 2½ cents per M.

In the ensuing discussion it was brought out that Silica Gel is being experimented with in Philadelphia as a means of accomplishing dehydration.

Mr. Fulweiler, of U. G. I., cautioned that we must not consider dehydration as a panacea for all our ills, while Mr. Griffin Gribbel spoke of the evils that meters must contend with and the problems that confront the meter manufacturer.

Mr. Herman Benz stated that "it is bad practice to annoy a good paying customer," and that "all our attention should be centered upon those accounts that are slow, and those that are bad must be handled vigorously." His paper was "Collections With Good Will."

Colonel Oscar H. Fogg, president American Gas Association, spoke of the general trend of business as a whole and the need for the gas industry to study the trend of the times to keep their place in the general scheme of things. He emphasized what Major Forward had previously said by way of outlining the research and other work the association has under way.

Talk by Gadsden

Philip H. Gadsden, vice-president U. G. I. Company, spoke of the legislative invasion by the Federal government of the field of private enterprise as projected by the recently adopted Norris Muscle Shoals resolution.

"After the electric and fertilizer business," said Mr. Gadsden, "what will be the next field of American business to be invaded by the Federal government?"

G. I. Vincent, vice-president Syracuse Lighting Company, in his address, "The Human Side of the Gas Business, "told how his company trains its employees to be diversified in their activities; selling appliances, tending to complaints, connecting appliances and many other activities. His talk elicited much valuable discussion.

Charles W. Person, of the A. G. A., read a meaty paper on the subject of advertising which will be found elsewhere in this issue.

N. W. Sulzer, of the Research Corporation, talked on the subject of "Cottrell Electrical Precipitation Processes as Applied to the Gas Industry."

"Public Service Accounting System" was handled by J. L. Conover.

At the conclusion of the sessions a number of inspection trips were headed by Public Service men. The banquet at the Robert Treat Hotel was well attended.

This will be the last meeting of the Conference, a resolution dissolving the same having been adopted

N. J. Gas Association Elects Officers

At the meeting of the New Jersey Gas Association, held in Newark in conjunction with the Eastern States Gas Conference, the following officers were elected to serve for the ensuing year:

H. A. Stockton, Atlantic Highlands, president; R. A. Koehler, Newark, and Chester Grey, Atlantic City, vice-presidents, and Louis Stoecker, Newark, secretary and treasurer.

The directors are: E. J. Menerey, Glassboro; Raymond W. Lee, Vineland; John A. Clark, Jr., Newark; R. R. Young, Newark; Robert F. Crowell,. Bridgeton; and John D. Alden, Asbury Park. The retiring president is John L. Conover, Newark.

PENNSYLVANIA GAS ASSOCIATION HOLDS TWENTIETH ANNUAL MEETING

Mark Pendleton Elected President

UPWARDS of two hundred members attended the 20th Annual Meeting of the Pennsylvania Gas Association at the Hotel Yorktown, York, Pa., April 10-11.

President Weiser opened the meeting with a speech introducing Grier Hersh, who welcomed the gas men to York in behalf of the Pennsylvania Gas and Electric Company. Mr. Hersh referred to previous conventions of the association in York and told of the advancement made in the gas industry since the anual meeting here in 1913.

In that year the combined sales of gas by the companies represented by the association were ten billion cubic feet, he said. Combined sales in 1927 were given by him as thirty-seven billion cubic feet.

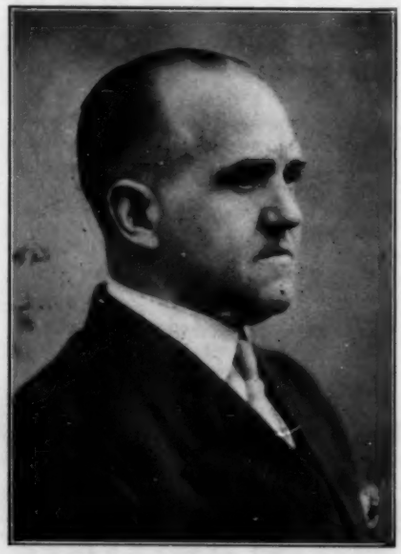
Mr. Hersh made this comparison of sales by the Pennsylvania Gas and Electric Company: In 1913, total of sales 140,000,000 cubic feet; in 1927, total of sales 470,000,000 cubic feet, which is an increase of 400 per cent.

Mayor Weaver told of York's prominent place in early national history as one of the first capitals. He informed the assemblage as to the scope and variety of this city's industries.

William L. Stevenson, chief engineer of the Pennsylvania department of health, speaking on the topic, "Solving Industrial Waste Problems by Cooperation," made the point that the problem of pollution of streams cannot be solved by legislation or injunction, and he declared that federal legislation would be futile and unjust, as it would be an invasion of the prerogatives of the sovereign states.

The incoming president was authorized to support a committee to cooperate with the department in relation to the problem of industrial waste as it relates to gas manufacture.

C. I. Crippen, operating manager of Stevens & Wood, Inc., New York City, and a director of Pennsylvania Gas and Electric Company, in presenting the subject, "Merchandising Methods," declared the gas business to be on the threshold of a new cycle, that of the commercial development of the business, which is the sale of appliances to increase sales of gas.



Mark Pendleton, President-elect

He cited the first cycle of the gas business, which was supplying gas for lighting. He told how the advent of electricity and its development as a competitor closed that first cycle for the gas companies; how the field was prepared and developed for the domestic use of gas, the second and present cycle of the gas business.

The third great cycle in the manufactured gas industry is the commercial cycle," Mr. Crippen said. "We stand just on the threshold of that cycle. We either go in or stay out. The gas business is public utility business, public service business, or what you will, it is not just a retailing job to deliver so many thousand feet of gas and collect a corresponding amount of money. It is the basic function of a public utility to equitably serve the community or area within which it operates at the lowest rates which will provide a reliable service of adequate quantity to meet the full needs of such community and yield to the utility sufficient return to keep it in healthy financial condition."

Luncheon addresses were made by Col. Oscar Fogg, American Gas Association, and Major Alexander Forward.

How customers' interests can be guarded and kindly public relations should and can be maintained for gas companies by the distribution engineer's department was clearly presented in a paper read by A. M. Boyd, of the U. G. I. Contracting Company. The subject of the paper, read at the session this afternoon, was "The Distribution Engineer's Contact With the Public."

Mr. Boyd said: "Gas distribution engineers are responsible to the public and to other divisions of the gas company for the distribution of the manufactured product. They do not have the responsibility of manufacturing the product and cannot control the quality. They do not directly promote the sales of the product or appliances. They do not render an accounting of sales and are not responsible for collections. They are, however, in a position to make a good or bad impression on the consuming public more times per year per customer than all of the other departments."

"Dehydration of Gas" was handled by Dr. T. K. Cleveland, U. G. I. Contracting Company.

W. H. Fulweiler collaborated with Mr. Cleveland in the preparation of the scholarly paper.

Prof. Young Points Way

In his address, "Cooperation With Educational Institutions," Prof. W. R. Young, of Pennsylvania State College, told how the Pennsylvania Gas Association can assist college faculties by issuing from time to time pamphlets giving pertinent and accurate facts about the gas industry. He pointed out the numerous ways whereby education and industry can cooperate for mutual advancement and public good.

"The investment banker is well satisfied that the best securities he has had to offer his clients in the past 10 years have been those of well managed gas and electric companies. And his judgment in this matter has been born out by the insurance companies, the most painstaking and discriminating investors of today, and by banks and other depositories of money." This was said in a speech by A. C. Allyn, who addressed the gas men in their afternoon session. Mr. Allyn, who is president of A. C. Allyn & Company, investment bankers, Chicago, cited the Pennsylvania Gas and Electric Company of York as a utility of remarkable record.

"Servicing of Customers' Appliances" was divided into three parts and was taken care of as follows:

On "operating department," Paul Fusselman, Philadelphia Suburban Counties Gas and Electric Company, Norristown; on "Future Sales," John C. Schmidt, Consumers Gas Company, Reading; on "Public Relations," Herbert H. Ganser, vice-president Philadelphia Suburban Counties Gas and Electric Company, Norristown.

A paper by T. G. Pendlebury, of the U. G. I. Contracting Company, Philadelphia, had for its subject, "Transmission Line Construction Problems." He touched the high points in the installation of gas transmission lines along state and country highways and city streets.

Mr. Pendlebury advised aeroplane photo-

graphic surveys of territory where lines are to be laid if engineers are not fully familiar with the topography. Responsible residents of a section should be consulted, he advised, for knowledge of soil conditions, as the shortest route is not always the cheapest. "Avoiding rock, although it may mean a longer line, will often be found to be cheaper in the end," he said.

The legal position of the State highway department relative to public utilities was defined and because of many changes in the law the necessity of cooperation by the department and the utilities was stressed by Samuel Eckels, chief engineer of the Pennsylvania Department of Highways.

He cited and explained legislation regulating the use of State highways for public utilities facilities. Late laws in many cases require changes of construction where public utility lines occupy or run contiguous to State highways.

"Measurement of High Pressure Gas" was read by J. C. Diehl of the Metric Metal Works, Erie.

"Very few people remember how many appliances have been used or how long the cooking stove has been operated. A great many other things affect gas bills which, in reality, are under the control of the consumer," said Mr. Diehl.

The following officers were elected: President, Mark Pendleton, vice-president of the Pennsylvania Gas and Electric Company, York; first vice-president, H. H. Miller, Gettysburg Gas Company, Gettysburg; second vice-president, Warren Norris, president of the Lebanon Valley Gas Company, Lebanon; third vice-president, Luther S. Williams, president of the Harrisburg Gas Company, Harrisburg; secretary and treasurer, George L. Cullen, commercial agent for the Harrisburg Gas Company, Harrisburg; council members, C. E. Bartlet, Philadelphia; G. W. Philips, Sunbury; M. N. Bailey, Royersford; A. G. Taylor, Reading, and H. H. Ganser, Norristown.

EMPIRE STATE WOMEN'S SECTION HOLDS ANNUAL MEETING

THE annual meeting of the Women's Section of the Empire State Gas and Electric Association, held April 12 and 13 at Briarcliff Manor, New York, was well attended by women prominent in the gas and electric companies of New York.

A very interesting program was arranged by the committee, of which Miss Marie Reith, of the New York Edison, was chairman.

The outstanding features of the papers read were the opportunities afforded to women in the Public Utility field, and how women could render service for their companies through contacts with the public.

Mr. Eugene H. Rosenquest, president of the Westchester Lighting Company, in his address of welcome, stressed the fact that Service is the keynote of the Public Utility business, and in helping to render this service, through co-operating with the housewife, is where women fit in the Public Utility field.

The Home Service Department

Miss Helen Smith, director Home Service Department of the Rochester Gas and Electric Company, spoke on the Home Service Department. In her talk she brought out the importance of a technical training for the home service director, her knowledge of the fuel she uses, and her ability to interest the housewife in the different methods of cooking food in an appetizing manner. She also mentioned the fact that many housewives rely on the judgment of the home service director when purchasing an appliance; consequently, it is essential for directors to know the important features of each appliance. In summing up, she compared the expense of the Home Service Department with the expense of the advertising department, stating that both helped to build good-will and such results could not be figured in dollars and cents.

Miss Marion Brainard, manager of the Bureau of Education of the New York Edison Company, spoke on the Aids of Teaching the use of gas and electric service in the home. She stated that employees should know the business thoroughly themselves, so that they could convey ideas intelligently to others. The public utilities are offering opportunities to their employees through classes, trade paper, magazines and various other methods, and Miss Brainard advised them to learn the job better and thereby like it better.

After her talk Miss Brainard showed a photoplay entitled "The Modern Kitchen," depicting the service rendered the consumer by the New York Edison Company.

Women in Public Utilities

Miss Sara Harris, assistant secretary of the Utica Gas and Electric Company, spoke on the opportunities afforded the women in business and advised the women to take advantage of all the opportunities which their companies offered.

Handling and Adjusting Complaints, by Miss Florence Everett, manager Personal Service Bureau of the New York Edison Company, was concerned with explaining the functions of her department. Miss Ethel Conklin, of the Consolidated Gas Company, gave an impromptu talk on how her department, which handles similar work, operates.

Mr. Frank W. Smith, chairman of the Public Speaking Committee of the New York State Committee on Public Utility Information, gave a summary of the vast amount of work this committee is doing to build good will for the utilities through addressing clubs, groups of business men and women, schools, radio talks, etc.

Miss Helen Smith, of the Rochester Light & Power Company of Rochester, was elected chairman for the coming year and Miss Ethel Conklin of the Consolidated Gas Company of New York, was elected vice-chairman.

The entertainment consisted of a luncheon on Thursday, April 12, at which Mrs. Christine Frederick, household efficiency expert, gave a most engaging talk on "Household Conditions Abroad."

In the evening a banquet was held, at which Miss Lena Madesin Phillips, president of the National Federation of Business and Professional Women's Clubs, spoke on "New Ways for Old." Talented employees of the gas and electric companies of the metropolitan district entertained the guests with songs and dances.

On Friday at luncheon a talk was given by Mr. F. W. Fisher, director of public relations of the Rochester Gas & Electric Corporation, on "Keeping in Step."

Charles A. Munroe Award Established

The executive board of the American Gas Association has announced the establishment of the Charles A. Munroe Award to provide annually for the financial recognition of any individual who, in the opinion of the executive board, has made the most outstanding contribution during the year in the general interests of the gas industry.

The earnings of a fund of $10,000 given by Charles A. Munroe will be available for this purpose.

As announced, the contributions to the industry's advancement may be presumed to include the following: Research, invention, operating methods or practices which reduce cost of manufacture and distribution, improved distribution or other service, increased sale of gas, development of new uses for gas, improved employee and public relations, promotion of safety, development of improved accounting practices, widening the field of gas-making materials, new methods of manufacture, finance, publicity, new gas works products and by-products, rates, etc.

An award committee of three members will be appointed each year by the executive board, and the award will be made every year.

Arthur Hewitt was chairman of the committee to consider the establishment of the award, and C. E. Paige and F. C. Freeman were members.

Over Four Hundred Attend Fifth Annual Distribution Conference at Chicago

MARTIN I. MIX, of the Peoples Gas Light & Coke Company, Chicago, was elected chairman of the distribution committee of the technical section of the American Gas Association at their Fifth Annual Distribution Conferennce held in Chicago, April 12 to 14, 1928.

There are few committees exhibiting greater interest or promise than the distribution committee, which is evidenced by the fact that the attendance was well over 400 delegates, coming from all over the United States and Canada.

The purpose of these distribution conferences is to relate and discuss "Experiences." They are, in fact, "Experience Meetings" and, being more or less informal, a great deal of worth is derived from which the entire gas industry unquestionably benefits to a great degree.

The Keynote

While it would be difficult to lay our finger on the "keynote" of this conference, it was quite apparent that the trend of thought was toward economy of operation as well as toward long distance transmission of gas.

The first paper which was to be presented by Mr. J. K. Crowell of the Westchester Lighting Company, was read by Mr. Elmer F. Schuldt of the Peoples Gas Light & Coke Company, on account of Mr. Crowell's illness. This paper pointed out the program of the Committee on Pipe Coatings. The first part calls for a complete bibliography on the existing data on coating and protection of underground piping.

The second part of Mr. Crowell's report calls for an investigation of the possibility of formulating simpler methods of testing procedure for determining relative efficiencies of pipe coatings. The third part calls for the maintenance of contacts with all other committees having similar problems. Mr. Crowell presented a noteworthy bibliography, which is included in his printed report. He also suggested two methods of procedure for testing coatings which are also given in the printed report.

The next number on the program was a report of the Committee on Pipe Joints and was presented by Mr. O. S. Hagerman of the American Light & Traction Company of New York, N. Y. (This paper was not printed.) Mr. Hagerman's report was in the nature of a recapitulation of progress already made. This material seemed to indicate very definitely the need for further research on the subject. At the present time there is a wide variation of experiences in the gas industry concerning pipe joints. It is quite apparent that modern conditions involving vibratory effects of trucks and railroad trains are multiplying the difficulties encountered in the joining of pipe in underground work.

As a part of the report of the Pipe Joint Committee and as an outstanding contribution from the natural gas department of the American Gas Association, Mr. E. V. Kessinger, of the Empire Companies, Bartlesville, Okla., presented an excellent report entitled, "Joint Practice As Applied to Long Distance High Pressure Lines." Mr. Kessinger outlined eight features of this line of work, among which it was easy to infer that he considered the following three items of major importance:

1. The cost of gas through leakage.
2. The proper size of long distance main.
3. The speed of the construction of the main.

He also gave some very interesting data concerning various leakages accruing to various types of joints. He pointed out that in his opinion the superiority of welded joints in the larger sizes of pipe is as yet problematical.

The final paper in the first morning session was by Mr. R. G. Griswold, chief technician of the H. L. Doherty & Co.

The title of his paper was "Life of Pipe." Mr. Griswold attempted to set up tables to which by applying the number of actual failures it is possible to estimate approximately the normal life of the system in the particular soil under consideration. The discussion that followed was extremely interesting, due to the great variance in similar data reported by the various delegates on the floor. The variation on the life of pipe seemed to be from three years in certain types of soil to an indefinite period in other types. Mr. Griswold's paper appeared in the March, 1928, issue of the American Gas Association monthly and should be studied by all gas distribution men.

Meter Committee Report

The second meeting convened in the afternoon opened with a paper by Mr. G. A. Lane, of the Peoples Gas Light & Coke Company, who reported on the work of the Committee on Meters. The first part of Mr. Lane's paper dealt with the report of his committee, in which he told of the survey made by his company of meter leaks. He found that by use of printed survey blanks the Peoples Gas Light & Coke Company had been successful in considerably improving meter leakage conditions. He also claimed that such a survey assists in pointing out the probable cause of meter leaks. The committee earnestly recommends the survey idea to all companies not already using it. It can also be used as a basis for condemning meters on account of age.

In the discussion of Mr. Lane's paper it was very strongly emphasized that the recommendation of a systematic survey be made by all companies not already doing so and that it would be through such a survey that leaks could be materially reduced. Mr. E. S. Umstetad, of the Providence Gas Company, Providence, R. I., presented a very interesting paper on the subject of "Advantages of the Meter Bar." His report was largely a resume of the experiences of 80 gas companies in the United States and Canada. The outstanding feature of the resume is the great diversity of practice evident. However, everything presented well proved the value of the meter bar. The exhibit of charts, diagrams and actual bars was very complete and impressive. The members of the conference were greatly impressed with this complete exhibit of charts, etc., and expressed their indebtedness to Mr. Umstead and the Providence Gas Company for his presentation of the subject in so admirable a manner.

Walton Forstall, of the United Gas Improvement Company, Philadelphia, was absent, but his report was presented by Mr. H. B. Anderson of the same company. The purport of the report was that consideration be given to specifications of plain-end cast iron pipe.

Pipe Material Resume

Mr. V. C. Hoddick, of the Rochester Gas & Electric Co., Rochester, N. Y., concluded the first day's session with another resume on the work of the Committee on Pipe Materials, based on the practice of 41 gas companies. He also illustrated by means of placards the composite gas services represented in general gas practice service. He also contributed his own ideas as to the ideal service which many did not concur with, as evidenced in the discussion.

Mr. F. A. Lydecker, of the Public Service Electric and Gas Company of Newark, New Jersey, was unable to open the second morning session, Friday, April 13, but his paper was presented by Mr. L. A. Kirch, of the Midland Utilities, Chicago. The paper involved the solution of the following problem:

"Assuming a number of towns within a hundred miles radius of various sizes, and with no production equipment in existence, determine the relative economy of supplying towns individually as against one centralized plant with high pressure transmission, etc."

The discussion brought out very forcibly that long distance high pressure transmission is of great importance and one arresting the attention of gas men everywhere. A very considerable representation of natural gas delegates contributed very

What price hot towels?

Hot towels at midnight, or a basin of hot water at 2 G.M., these are the advantages that a Welsbach Hotzone salesman offers today. He doesn't connect the water heater to the laundry alone. He doesn't threaten his prospects with the terrors of wash day. He knows that she would much rather think of her evening appearance and much rather pay for a midnight shampoo. He sells hot water as a beauty aid.

The fact is, that the day of "Sell-em-plenty-of-good-hot-water-for-washing-and-scrubbing" has passed on with the first coil heater. Today, the Hotzone story begins with first aid to faces. Here indeed is a thin-skinned proposition and one of the most profitable in history. For remember that last year the national beauty bill was somewhere around two billion dollars.

Tie in with this sales idea now. We have prepared a series of striking newspaper advertisements to aid you. These will be furnished in complete electrotype form. Write today to Welsbach Company, Gloucester City, N.J. Offices in principal cities.

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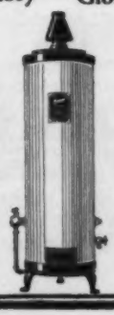


Welsbach HOTZONE

SELF ACTION GAS WATER HEATER

extensively of their experience in high pressure gas transmission.

Mr. E. H. Enander, of the Public Service Company of Northern Illinois, Chicago, talked extemporaneously* on the subject, "Automatic Pressure Boosters for District Regulation for High Pressure Holders." He illustrated graphically the means of boosting pressures at district regulator. Mr. Enander's was a double paper in which the second part dealt with the control of pressure from high pressure holders.

The report of the Committee on Distribution of Portable Equipment was given by Mr. Goldsmith, of the Brooklyn Union Co., who represented Mr. Braine of the same company. The report consisted chiefly of five or six tables showing the operating and repair costs of various types of portable equipment. For example, in the first table having to do with automotive equipment it was brought out that the life of 1,200 automobiles in active service was as follows:

	Cars
First year	1,200
Second year	847
Third year	602
Fourth year	363
Fifth year	102
Sixth year	41

Although all of Mr. Braine's material proved to be very interesting, it illustrated to companies the importance of developing systems of watching their costs in guiding the management in financing their portable equipment.

In the afternoon the entire time was devoted to an open forum in which many subjects not covered in the papers were discussed. It was urged that the American Gas Association adopt possible measures of reducing the very extensive loss due to corrosion which is bound to increase in the future if immediate measures are not evolved.

On Saturday morning, April 14, arrangements were made for an inspection trip to the Gary plant of the National Tube Company. Through the couresty of that company, busses were provided for the convenience of the members, and it was agreed by all that the trip proved extremely interesting as well as educational.

* This paper was printed but not read.

Gas Section of Empire State Gas & Electric Association Holds Annual Meeting

UNDER the able direction of Chairman Oliver H. Smith, the Gas Section of this association met at Briarcliff Lodge, Westchester County, New York, on April 19th and 20th.

A cordial address of welcome was presented by E. H. Rosenquest, president of the Westchester Lighting Company.

Mr. C. C. Atwood read the report of the committee on consumers meters and brought out the following:

Response to a questionnaire on the use of tin and iron meters developed that 95-97 per cent of the meters in use are tin. However, for high pressure and industrial installations a prefrence is shown for iron meters.

On the subject of rigid connections, Mr. Dunn of Albany stated that they had 15 thousand meters connected with meter bars and had no reports on leaks due to strain on the meter.

It was generally conceded that theft of gas through bypass and tampering with meters is still a serious matter.

J. L. Eberle presented report of his committee on large industrial gas meters. Tests and operating principles of several types were described in papers offered by H. E. Merrill, H. C. Deffenbaugh and A. E. Turner.

In a brief address, Mr. Davidson, chairman of the accounting section of the association, referred to the service that section is willing to render to the engineering, operating and commercial departments.

"What the Gas Industry Owes the Engineer" was the title of an inspiring address given by Alexander Forward, managing director of the American Gas Association. Mr. Forward stressed the important place of the engineer in the initiation, development, progress and continuity of the gas industry.

In presenting the committee report on gas distribution Mr. G. T. Macbeth explained that in considering classification of pressures they were rated as follows: Low, 2½ in. to 20 in.; medium, 20 in. to 15 lbs.; high, 20 in. to 100 lbs. and over.

The report of Mr. J. H. Waldron on Governor Installation, Operation and Maintenance was based on information from fourteen companies and disclosed that ten types of governors are used among these companies, sizes ranging from 2-inch to 10-inch diameter.

George Boyd, in outlining steel pipe welding as carried on by the Consolidated Gas Company, expressed a preference for oxyacetylene welding as compared with electric welding, due to lower cost and more effective weld.

Cast iron pipe bronze welding was discussed and explained in diagram by Mr. C. C. Atwood of Brooklyn.

"The Use of Aftercoolers with High Pressure Gas Compressors" was the title of a report by Mr. J. E. Cooper of Utica. Two coolers are in use at the Utica plant. The initial pressure on their 22 miles of transmission lines is 25-35 lbs. With their equipment they cool 325,000 cubic feet per hour and have eliminated all moisture in the high pressure system.

On "High Pressure Gas Service Construction," Mr. H. E. Merrill reported a state survey on the subject which indicated a need to increase diameter or pressure of transmission lines.

On "High Pressure Gas Storge," Mr. Erick Larson recommended in his report that for cylindrical high pressure tanks welding of plates is preferable to riveted construction.

Eleven member companies replied to the questionnaire on which was based the committee report of R. Van Vliet. He stated that every company realizes the economies to be effected by the use of the exhaust steam accumulator.

Mr. C. C. Crun in his report on accumulators said that even in smaller plants the accumulator is an economic adjunct. If there is an excess of exhaust steam the accumulator can be used as a feed-water heater. The accumulator delivers steam 98.5 to 99 per cent dry, according to tests conducted. In one case reported, the use of the accumulator enabled a reduction of about 30 per cent in boiler rating.

Mr. F. B. Parke, of Brooklyn Union, gave an interesting description of their new plant at Greenpoint. Six "Back Run" water gas sets are in operation with a daily capacity of 20 million cubic feet.

Production Data

The report of this committee was read by Mr. G. E. Davis in the absence of Mr. H. K. Seeley, chairman. A satisfactory grade of coke for domestic and industrial use is made from a mixture of 15 per cent low volatile and 85 per cent high volatile coal. In dry quenching coke at Rochester it is found desirable to sprinkle the domestic product, adding 6 to 8 per cent to avoid dust.

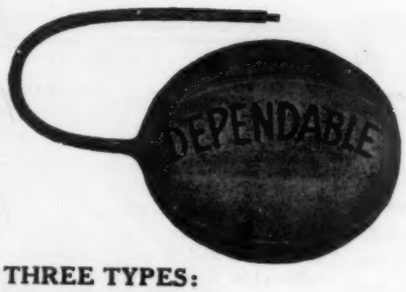
Linn Bowman, of Rochester, read a detailed report of laboratory and commercial tests on Phenol Extraction and Disposal at the Rochester Gas & Electric plant.

The ammonia still waste in contact with the sewage was shown to have no deleterious effect on the equipment or objectionable change in the sludge.

Mr. R. E. Fulweiler read a report on Water Gas Plant Effluent Disposal, describing installations, operations and methods employed at several plants.

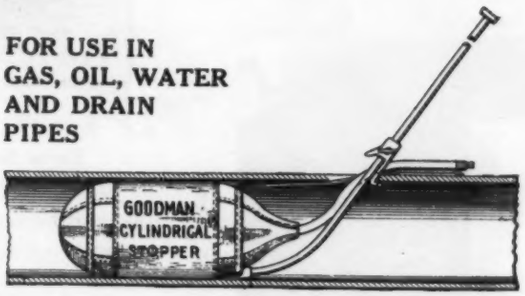
The following officers were unanimously elected for the ensuing year: Chairman, H. E. Merrill, of Republic Light, Heat and Power Company of Tonawanda; vice-chairman, R. Van Vliet of New York and Richmond Gas Company, New York.

FOR SAFETY'S SAKE USE



THREE TYPES:
TYPE A—Seamless
TYPE B—Reinforced seams
TYPE C—Canvas-covered

FOR USE IN GAS, OIL, WATER AND DRAIN PIPES



Air Line Mask
With or without Blower.
Mask and Blower in separate cases.
Blower will supply sufficient air for four masks.

WE WILL BE AT
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IN
DALLAS, TEXAS

SOAP TAPE
Safety Gas Main Soap Tape for bandaging broken pipe. Also Binding Tape to cover soap tape bandage.

Safety Gas Main Stopper Co.

523 ATLANTIC AVENUE, BROOKLYN, N. Y.

Pacific Coast Representative:
C. B. Babcock Co.,
San Francisco, Cal.

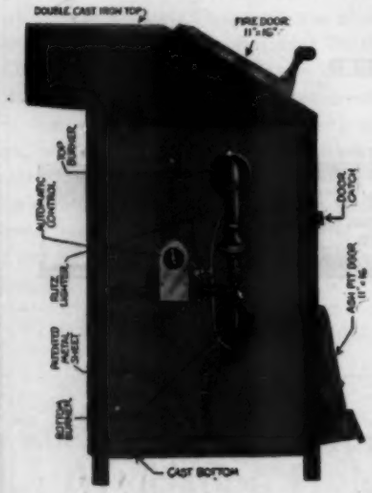
Texas-Louisiana Representative:
Maintenance Engineering Corp.,
Houston, Texas.

New England Representative:
Eastern Service Co.,
Boston, Mass.

Equipment News

New Type Incinerator

Teekorator, Inc., Rochester, N. Y., have just issued a leaflet describing their new heavy duty automatic type Teekorator Incinerator. Twin burners and twin Rutz lighters, operated by a single push button, reduce the operation of this Teekorator model to simplicity itself.



The illustration shows the construction of the incinerator. No complicated parts to give trouble or get out of order. The two burners are arranged one above and one below. This arrangement not only speeds the burning but means complete, thorough incineration.

The push of the Rutz lighter button automatically starts these burners working—or they may be operated separately. Under ordinary conditions complete incineration of rubbish-garbage is completed in 15 to 30 minutes. If desired, automatic cut-off is furnished.

Descriptive leaflet will be mailed on request.

Improved Oxweld Cutting Blowpipe

A new cutting blowpipe, known as type C-14, which it is claimed will not backfire under the most severe operating conditions, has been added to the line of the Oxweld Acetylene Company, 30 West 42nd Street, New York.

This blowpipe uses the same nozzles as the Oxweld type C-2, although several improvements in design have been made. The three gas tubes are straight, having no bends either outside or inside the handle. The cutting valve is of the same design as has been used on the type C-6 for many years, and is now used on all hand cutting blowpipes of the same make.

Some time ago the small needle valve bodies used for acetylene on the cutting blowpipes were improved by making them pressure forgings. Now, in addition to these, both the head and rear body of the type C-14 are also pressure forgings, instead of castings, giving better appearance, increased durability and lessened weight.

Interchangeable nozzles are provided so that the blowpipe may be used with either medium or low pressure acetylene. Obviously the medium pressure nozzle cannot be used with low pressure acetylene, but the low pressure nozzle can be used with a medium pressure acetylene supply if low pressure is maintained in the hose and blowpipe.

Parke Safety Oven Shelves

This device is a framework which can be inserted into the oven of any gas range in a few minutes' time. In turn, it can be removed from the oven with ease and dispatch in the event that it is desired to clean either the oven or the rack itself, and has been indorsed by a number of domestic science institutes and experts.

The shelf, which can be readily adjusted to any height in the oven and is provided with stops which prevent the horizontal sliding portion from being entirely withdrawn from the oven, thereby eliminating the bad consequences of the roast or food dropping onto the oven door or kitchen floor.

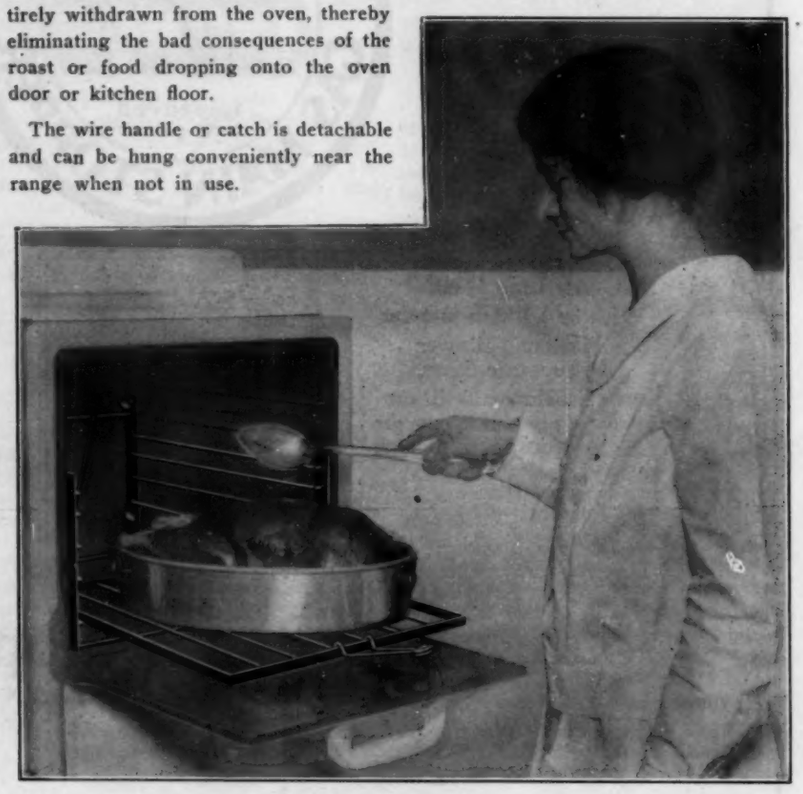
The wire handle or catch is detachable and can be hung conveniently near the range when not in use.

In addition to the advantages claimed above it is also stated that this device will prevent burned hands and fingers, save tea towels from charring, outlast the range, and has sufficient strength to carry the heaviest roast put into the oven.

It is not necessary to drill holes in the range or use any tools except the hands and a small wrench in installing the device.

The device is made of steel which has been rustproofed and comes in a flat or knocked down condition.

Further details will be sent upon request to William Parke, Inc., 537 S. Second Street, Camden, N. J.



cast iron pipe is lighter and stronger

SAVE MONEY
all down the line
with
MONO-CAST
CAST IRON PIPE

Mono-Cast centrifugal pipe, in classes 150 and 250, lowers costs all down the line—both first costs and laying costs:

First cost is 10 to 15 per cent lower.

Made in 16-foot lengths, Mono-Cast eliminates one-fourth of the joints in the line. That saves you one-fourth in the cost of joints, labor and materials, such as digging bell-holes, packing, melting lead, pouring, and caulking.

Delivery cost is lower because Mono-Cast centrifugal pipe in lighter weights will withstand greater working pressure.

Remember these points when placing your next pipe order. Cast iron pipe gives you greater service at lower cost — and is easier to lay than any other ferrous pipe.

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BIRMINGHAM, ALABAMA
DISTRICT OFFICES IN PRINCIPAL CITIES

cast iron pipe is lighter and stronger

Large Wheel Truck for Oxy-Acetylene Equipment

After thorough tests in field and shop, a new type of two-wheel truck has been put on the market by the Oxweld Acetylene Company, 30 East 42nd Street, New York. Increase in wheel size was a primary consideration in the design, larger wheels making the truck much easier to handle.

The new truck is equipped with 24-inch steel wheels, having 3 by ⅜ inch grooved tires and a cast iron hub. The hub is bored to fit the cold-rolled steel axle and a grease cup is provided. Lubrication is of particular importance in overland pipe line work, where the truck may be hauled long distances at fairly high speed behind a motor truck.

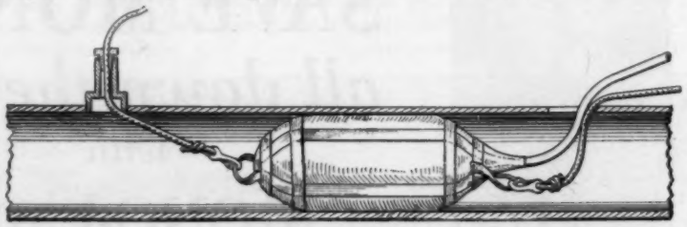
The handle is continuous and the upper portion is bent back about eight inches, so that the truck can be easily handled by an operator of small stature.

Where 24-inch wheels are not required, 14-inch wheels may be used instead, merely by changing the position of the axle to the lower set of holes, which are already drilled in the frame. The same frame and axle can be used with either size wheels. No grease cups are necessary with the smaller wheels.

Goodman Cylindrical Stopper

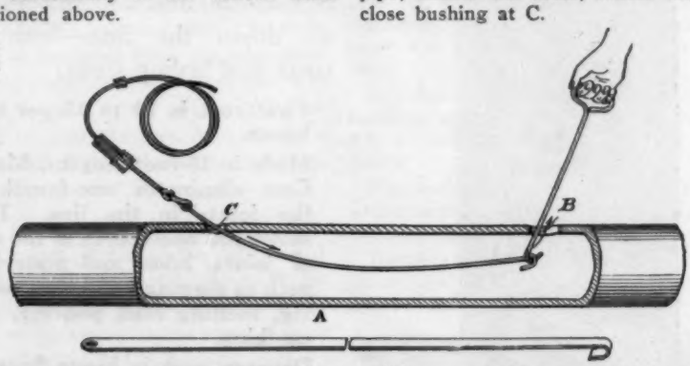
This stopper is an improvement on the spherical Canvas Covered Gas Main Bag which Safety Gas Main Stopper Company, Brooklyn, N. Y., has been putting out for years for use in gas mains coated with tar and oil.

This device, which can be used on oil pipe, water work, tide, sewer and gas main work, is an inflatable bag with a rugged water-proofed casing which may be inflated to a high internal pressure and will, it is claimed, hold against as much as ten pounds pressure in the pipe.



The broad central zone makes contact with the wall of the pipe and holds against a higher pressure than the spherical shaped bag.

It is stated that this stopper has been used successfully in the various fields mentioned above.



For gas main work, on intermediate and high pressure lines the stopper is pulled into place in the pipe and held in place with a cable while being inflated.

To shut off the pipe at a point A for example, tap a hole at B large enough to permit the Stopper to be inserted, having first tapped a smaller hole (to fit the bushings provided on the cable) at a point C, distant not less than twice the diameter of the pipe from point B.

Through the hole at C push the hooked rod and cable to B, pull hooked rod and cable through B and catch cable on the bag. Pull the Stopper into the pipe; anchor the cable; inflate Stopper; close bushing at C.

When work is completed, deflate Stopper, release end of cable and withdraw the Stopper through the hole at B, using rope provided for the purpose.

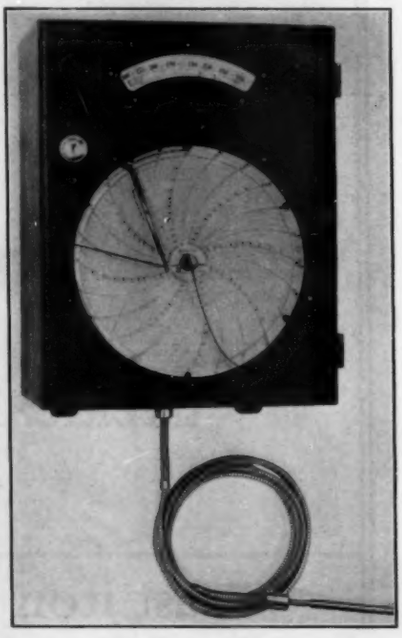
New Recorder Controller Model 267

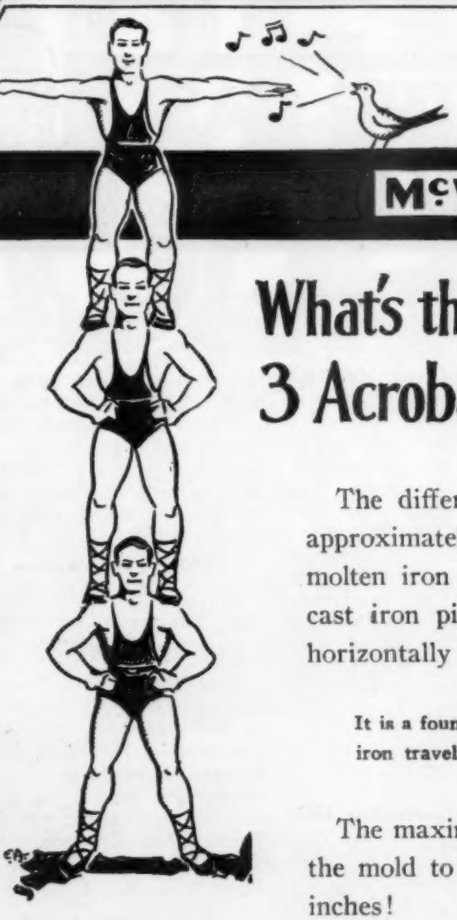
A new recorder and contacting controller is being offered by the Bristol Company, Waterbury, Conn. This combines in one case the features of a rugged recorder and a thermometer controller which offers a more compact outfit than separate instruments.

The equipment is a single pen recording system with controller system and scale mounted directly above it. The recording pen and moving contact of the controller are each actuated by separate pressure elements which are exactly alike in construction. These elements are connected through one capillary tube to the sensitive bulb, and arranged in this way the record is not impaired in the slightest degree by retarding effect of the controller.

To use, it is only necessary to set the control to the desired temperature by moving an index pointer over a scale to the exact degree to be controlled.

Details will be sent on request.





McWANE PIPE

What's the Difference Between 3 Acrobats and a Robin?

The difference in height, is about 15½ feet—approximately the same as the difference in distance molten iron must travel inside the mold to make cast iron pipe the old way as compared with a horizontally cast McWane pipe.

It is a foundry axiom that the shorter distance molten iron travels the sounder and stronger is the casting.

The maximum distance McWane iron travels in the mold to make McWane pipe is not feet—but inches!

And McWane pipe is "sand moulded inside and out"—do you wonder that it cuts and taps easily and ships well?

12 ft. or 16 ft. lengths above 4 inches in diameter

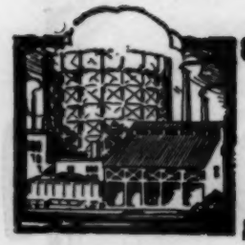
WRITE FOR ILLUSTRATED LITERATURE

McWANE CAST IRON PIPE CO. BIRMINGHAM, ALA.

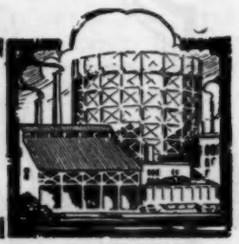
PACIFIC STATES CAST IRON PIPE CO. PROVO, UTAH

SALES OFFICES IN PRINCIPAL CITIES

McWANE CAST IRON PIPE



NEWS OF THE GAS INDUSTRY



Thompson Emphasizes Utility's Obligations in U. G. I. Annual Report

The obligations of utility companies as dealers in public service, the justification of consolidations of properties engaged in supplying gas and electricity, a continuation of its policy of sharing results of operating economies with customers and another year of continued progress on the part of associated companies are emphasized by Arthur W. Thompson, president of the United Gas Improvement Company, in its 46th annual report, recently mailed to stockholders. The report confirmed a comparative financial statement made public several weeks ago, which showed total earnings for the year ended December 31, 1927, of $13,939,291, an increase of 26 per cent over the previous year, and net profits of $12,934,457, an increase of $3,591,843, equivalent to 12.5b per cent on the average stock outstanding, compared with 11.11 per cent earned in 1926.

As of December 31, 1927, the company had outstanding 2,129,798 shares of capital stock (par $50) against 2,035,694 shares at the close of the previous year.

It is stated the net profits for 1927 do not include the proportionate interest of the U. G. I. Company in the undistributed net profits for that year of companies in which it owns a majority of the common stock. These profits were not paid out in dividends, but were retained as undivided profits by such companies and their subsidiaries.

Insull Addresses Employees at Elkhart

Samuel Insull, Jr., Chicago, president of the Northern Indiana Public Service Company, gas electric utility, spoke to more than 300 persons at a dinner recently in Elkhart for company managers and employees. His talk was confined to the business aspects of the company. Other speakers were E. D. Anderson, Elkhart, district manager; B. H. Gardner of Hammond, general manager of sales and service; Morse Dell Plain of Hammond, vice-president in charge of operation, and C. W. Chase, vice-president. A total of 120 communities were represented at the meeting from 29 counties.

Gas and Electric Companies Consolidate

The Central Public Service Company, which owns the Rockford Electric Company and the Rockford Gas Light and Coke Company, Rockford, Ill., has consolidated the two concerns, and Adam Gschwindt, who has been manager of the electric unit since 1913, assumed duties as manager of the new gas plant also. Henry S. Whipple, since 1890 manager of the gas plant, has retired and will become chairman of the board of directors of the gas company. The Wyman and Mulberry Streets office of the gas company, located there since 1860, will be moved to the Chestnut Street office of the electric company, but each company will retain its old name, although no other changes in personnel are to be made.

County Gas Company Employees Hold Meeting

About fifty members of the County Gas Company Employees' Association were present at the April monthly meeting in the Odd Fellows Hall, Atlantic Highlands, N. J.

Following a brief business session the meeting was addressed by Mr. John Alden, an executive of the Jersey Central Power & Light Co., and also a director of the New Jersey Gas Association. Mr. Alden's remarks, were of an interesting nature, dealing largely with his experience while with the Western United Gas & Electric Company of Illinois, a company operating under conditions somewhat similar to those of the County Gas Company. Mr. Stockton, president of the company, also made a few appropriate remarks.

Following the meeting refreshments were served, after which music and dancing were enjoyed.

Contracts for Twelve Million Cubic Feet Daily

The Standard Oil Company of Indiana has contracted with the Kansas City Gas Company, a subsidiary of Cities Service, to serve the Standard's refinery at Sugar Creek, Mo., with a maximum of 12,000,000 cubic feet of natural gas daily.

Seeks Permission to Connect Up Gas Wells

The Iroquois Gas Corporation of Buffalo has made application to the Public Service Commission for permission to construct a distribution line in Holland, Erie County, N. Y., to connect some recently developed natural gas wells with its main distribution system, under the terms of a town consent dated February 23, 1928.

Gas Company Makes Answer to Damage Suit

The Greeley Gas & Fuel Company of Greeley, Colo., was sued for damages by Mrs. Carrie Beasley, mother of a boy who was injured when the father (her husband) lighted a match to hunt for an alleged gas leak. The company asks that the father of the boy, the Lawrence Construction Company, the Southern Surety Company and the City of Greeley be included as defendants.

Want Natural Gas

Artesia, New Mexico, will be served with natural gas from the field nearby, the Pecos Valley Gas Company, Joseph Burkett of San Antonio, general manager, says. According to the progress made the gas service should be operating by the fore part of this month.

Action Deferred

The Iowa Public Service Company offers to sell its gas distribution system in Cedar Falls, Iowa, to the municipality for $125,000 or a price fixed by a committee to be selected to appraise the property, and enter a contract to purchase its gas at 75 cents per thousand cubic feet delivered at the corporate limits, will not be acted upon by the city before 1930, Mayor J. F. Cross has indicated. The voters had previously authorized a bond issue of $150,000 for this purpose.

The Iowa Public Service franchise expires in 1930 and the councilmen were divided in their attitude upon immediate action on the purchase plan.

DRESSER COUPLINGS

This bridge crossing, like the 30" main line, is completely Dresser Coupled. It is strong, flexible and durable.

Dresser Couplings will take care of all movement of pipe due to expansion or contraction, vibration or any other cause, and will remain permanently tight.

S.R. DRESSER MANUFACTURING CO.
BRADFORD, PENNA.

Brooklyn Union Gas Company Files Adjusted Rate Schedule

The Brooklyn Union Gas Company has filed with the Public Service Commission an adjusted rate schedule to become effective May 16, 1928.

The new schedule announced by Mr. James H. Jourdan, president of the company, provides a monthly charge of 95c. for the first 200 cubic feet of gas or less, plus 9c. for each additional 100 cubic feet of gas. There is also a special rate for users of large amounts of gas for commercial and industrial purposes.

A letter explaining the rate adjustment is being sent to every customer of the company.

"This adjustment," said Mr. Jourdan, "is made only after mature consideration of all contributing factors. It will reduce the cost to the family consumer using gas for cooking, water heating and incidental heating. It will also reduce the cost to the consumer using gas in larger quantities for industrial and commercial purposes.

"The necessity for an adjustment is found in changing economic and social conditions that now cause the gas company to serve a large number of 'convenience' customers at charges below the actual cost of service.

"The kitchen of other days has largely been displaced by the modern restaurant, the community laundry, the wholesale bakery, and other similar agencies.

"We feel that these establishments are beneficial because they eliminate waste. As a result of them, however, many persons have become only casual or 'convenience' users of gas, thus reducing the revenue from domestic customers without a corresponding reduction in the expense to the company.

"The new rate is intended to neither increase or decrease the company's revenue. It will, however, distribute more equitably among our customrs the cost of service to each of them in proportion to his requirements. It costs the Brooklyn Union Gas Company in excess of 95c. per month for each customer on its books before a single cubic foot of gas is delivered to him. These expenses are incurred regardless of whether a particular customer actually uses gas or merely has the convenience of a meter. In this item there are no expenses relating to the actual costs of producing and distributing gas.

"The adjustment," continued Mr. Jourdan, "will reduce the gas bills of a large number of customers and will increase the bills of the very small or 'convenience' users. We feel, however, that the adjustment will stimulate the greater use of gas by offering to customers the opportunity to use more of this fuel at a reduced cost. It will also stimulate the use of gas for commercial and industrial purposes."

Lower Gas Rate Schedules for Indiana Cities

Lower gas rate schedules for domestic and commercial uses on an optional basis have been approved by the Indiana Public Service Commission for seven Northern Indiana cities, having been submitted by the Northern Indiana Public Service Company. In most cases reductions apply only to special appliances or for heating purposes. Cities and towns affected are Hammond, Whiting, Decatur, Bluffton, Wabash, Logansport and Peru. The Commission at the same time approved the purchase by the Eastern Indiana Gas Company of Newcastle, of which Arthur B. Ayres is president, of the Cambridge Natural Gas Company of Cambridge City, Ind.

Files Certificate to Make Term of Existence Perpetual

New York and Richmond Gas Company, New York City, has filed a certificate in the office of the Secretary of State, making its term of existence perpetual.

Voters Favor Municipal Gas Plant

Cedar Falls, Iowa, voters recently returned a majority of 1,448 in favor of a $150,000 bond issue for the purchase or construction of a municipal gas plant. Voting during the first hours evidenced little interest on the part of the voters and only 400 votes had been cast four hours before the polls closed.

Wins Prize in Examination on Refrigeration by Gas

At a meeting of the sales department of the Haverhill Gas Company, Willis F. Eaton, representative in district five, was presented with an engraved cigar lighter as first prize for securing the highest percentage in an examination on gas refrigeration, following a series of meetings. The presentation was made by C. D. Williams, sales manager of the New England division of the National Refrigerator Company, manufacturers of Ice-O-Lator Gas Refrigerators. The refrigeration meetings were held in Lawrence and were attended by representatives of the Haverhill, Lawrence and Lowell gas companies. Mr. Williams, who made the award, is also chairman of the New England Gas Association Cooperative Advertising Committee. At the meeting he gave a talk on the gas industry's cooperative advertising plan now in progress.

Limits of Flammability of Gases Reported

Two recent publications of the Bureau of Mines report on important investigations having to do with the limits of flammability and the propagation of flames in mixtures of gas or vapor with air. These reports include valuable research results applicable to gas utilization investigations as well as to safety work and the prevention of explosions in plants and mines.

Either of the pamphlets can be procured by purchase from the Superintendent of Documents, Government Printing Office, Washington, D. C., at the prices noted. They are: Limits of Inflammability of Gases and Vapors, by H. F. Coward and G. W. Jones. Bureau of Mines Bulletin 279, 20 cents. Propagation of Flame in Mixtures of Natural Gas and Air, by H. F. Coward and H. P. Greenwald. Bureau of Mines Technical Paper 427, 10 cents.

Fuel Briquet Production

U. S. Bureau of Mines reports that the fuel briquet production in the United States during 1927 was 970,468 tons, valued at $7,985,165, from nineteen plants. This production represented a 2.5 per cent decrease in tonnage and a 6 per cent reduction in aggregate value for the country; but the decrease occurred altogether in the Eastern States because both Central and Pacific Coast States reported nearly 10 per cent increase in output and small increase in value as compared with the preceding calendar year.

Of the 950,808 tons of raw fuel used in making briquets, 38 per cent was anthracite and semi-anthracite, 53 per cent was semi-bituminous and bituminous coal or semi-smoke, and 9 per cent was sub-bituminous coal and carbon residue from oil-gas manufacture. The binder was generally asphaltic pitch, used in whole or in part by twelve of the nineteen plants. The three plants reporting use of oil-gas carbon used no binder. Four plants reported that a secondary carbonization of the briquets was carried out in order to eliminate smoke during use because of the presence of the binder.

You can make a real saving with this pipe-

Made in Double Random Lengths

ACCURATELY FINISHED ENDS GOOD JOINTS

FEW JOINTS LESS LABOR

"NATIONAL"

Here is a definite saving to gas companies of time, labor and joint-making materials in the laying of mains. Approximately one-half the ordinary number of joints are eliminated by using double length pipe. Another advantage of importance is that the possibility of leakage is greatly reduced and an all around better line is obtained.

Because of its high tensile strength, uniform structure and good welding qualities, "NATIONAL" Pipe also assures a strong, sound, dependable line from end to end. Note the illustration: A number of lengths of "NATIONAL" Pipe may be first welded, then rolled and lowered into the trench—a test that demonstrates the strength and quality of the pipe. Ask for Bulletin No. 26.

Remember! Only "NATIONAL" Pipe is made in Double Random Lengths.

NATIONAL TUBE COMPANY, PITTSBURGH, PA.

District Sales Offices in The Larger Cities

Circular on Status of Gas Engineering Course at Johns Hopkins

The Consolidated Gas, Electric Light & Power Company of Baltimore has recently issued a circular containing photographs and brief biographies of the members of the first graduating class in Gas Engineering at Johns Hopkins University, Baltimore, Md. A concise description of the course is also contained therein.

"The main purpose of this circular is to announce some of the results of the Gas Engineering course at the Johns Hopkins University, Baltimore, Md., at the completion of the first four years and to present to the gas industry, for early choice, the young men who have been trained technically to work in the gas field."

New Home of Oklahoma Gas and Electric Company

Formal opening of the new office building of the Oklahoma Gas and Electric Company at Oklahoma City, Oklahoma, was held on March 24.

A luncheon was served in the building to a list of guests, including Governor Johnston of Oklahoma, Mayor Dean of Oklahoma City, members of the city council, county and state officials, officers and directors of commercial and civic groups and heads of various Oklahoma electrical companies.

At 1.30 the building was opened to the public. Boy scouts were stationed at the entrances and throughout the building to direct visitors to various points of interest. The O. G. & E. orchestra was stationed on the main floor to furnish music, and a second orchestra played on the sixth floor.

Flowers were presented to every woman visitor, and souvenir booklets telling the story of the company's progress and pertinent facts about the new building were distributed. A special invitation was sent to all the company's 11,000 stockholders.

The building is of Gothic architecture, modified for modern commercial use. The windows and doors on the street level floor carry out the Gothic arch and Gothic lines. At present the building has six stories and basement, but the foundations were laid to support six additional stories and these will be added when required.

View of main floor, Oklahoma Gas and Electric Company's new office building

Personals

Gadsden to Address International Advertising Association Convention

Philip H. Gadsden, vice-president of the United Gas Improvement Company, Philadelphia, Pa., and chairman of the executive committee of the Joint Committee of National Utility Associations, will address the annual convention of the International Advertising Association at Detroit, Mich., on July 9. Mr. Gadsden will speak in behalf of the public utility industry, and will represent the Public Utilities Advertising Association on the program. The convention will last from July 8 to 12.

Reynolds Elected Vice-President of Columbia Gas and Electric Corporation

Edward Reynolds, Jr., was recently elected a vice-president of the Columbia Gas and Electric Corporation. He will continue to act as secretary of the corporation and have jurisdiction over fiscal affairs.

Edward Reynolds, Jr.

Mr. Reynolds was graduated from Harvard University in 1915 and received his early public utility experience with Stone & Webster in Boston, resigning from that position at the outbreak of the World War to enter the U. S. Navy as lieutenant, junior grade. For three and one-half years after the close of the war he was connected with the bond department of the Guaranty Trust Company, and in the fall of 1922 joined the Columbia system as treasurer of the company.

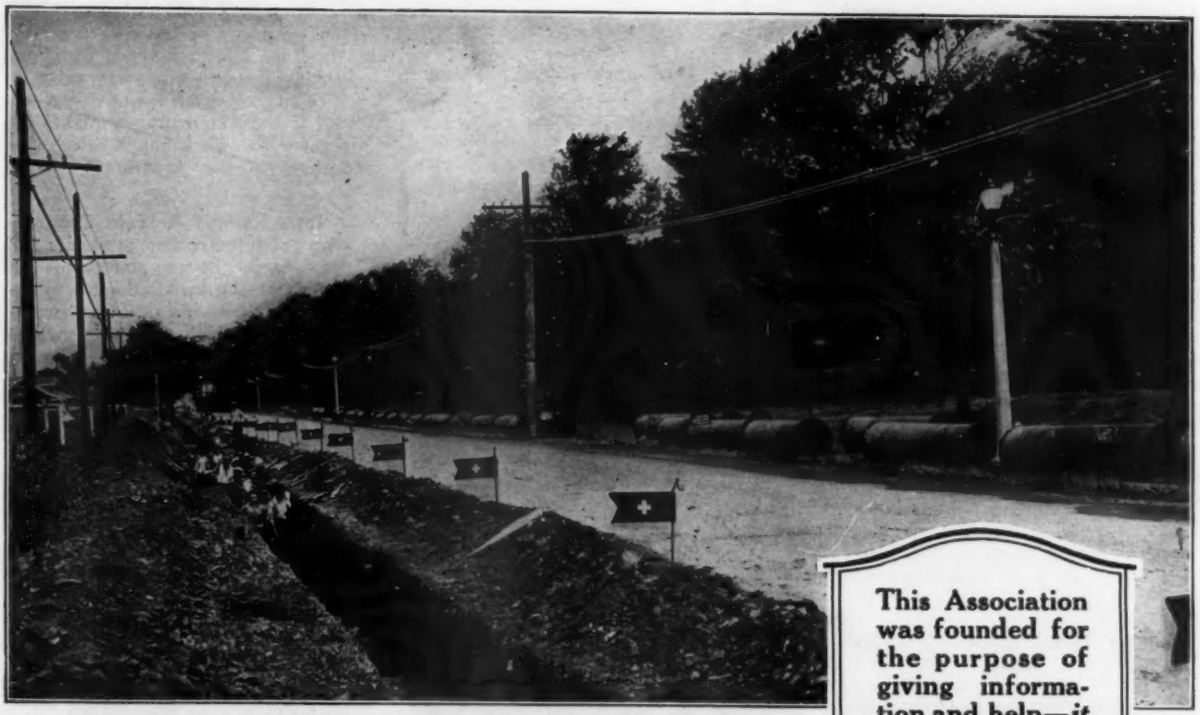
Mr. Reynolds is well known in financial, banking and public utility circles.

Dr. Smith Demonstrates Resuscitation

Dr. Isaac B. Smith of the medical staff of the Brooklyn Union Gas Company, recently gave a demonstration of the Schaefer Prone Pressure Method of Resuscitation before the students of Dewey Junior High School.

He was accompanied by Joseph Whitty, chief clerk of the Citizens Works of the Gas Company, who saved a young woman from drowning at Long Beach by the use of this method. Frank Devlin, employed as a chauffeur in the Construction Department, aided in giving the demonstration. Mr. Devlin saved a man who had been overcome by an electric shock.

George M. Kirchmer made a few introductory remarks.



100 years from today!

Some engineer, not yet born, will know every detail of this installation simply by glancing at the blueprints, because Cast Iron Pipe and its fittings will be as STANDARD then as they have been for the past 100 years

THE life of Cast Iron Pipe mains has never yet been determined, as there is no case on record where Cast Iron Pipe has failed under usual service conditions.

For this reason it has been necessary to standardize Cast Iron Pipe and fittings.

The engineer never has to have a Cast Iron Pipe line uncovered for examination as to dimensions. His office records show all the information he needs.

THE CAST IRON PIPE RESEARCH ASSOCIATION
People's Gas Building, Chicago, Ill.

This Association was founded for the purpose of giving information and help—*it has nothing to sell.*

Its primary interest is the collection and distribution of all information relative to Cast Iron Pipe for all purposes—and in arousing public interest in waterworks construction.

Consulting engineers, contractors and municipal officials are invited to write.

Of especial importance is an article on the "two mains system." Write to the Research Engineer for a copy of this or other literature on the subject of water systems which may be interesting to you.

BELL *and* SPIGOT JOINT—
the accepted standard for underground construction.

CAST IRON PIPE

—In continuous service for over 250 years

Charles G. Laskey, Pioneer in Development of Southwest Natural Gas Industry, Elected President of 15 Consolidated Companies

The election announced of Charles G. Laskey as president of the newly formed Southwest Gas Utilities Corporation, marks a climax in the career of a man who has been an outstanding leader in the natural gas industry in the Southwest. His promotion places him at the head of one of the large American natural gas systems which is now operating in territory of which he pioneered discovery nearly twenty years ago. He has seen his first little company, controlling a few thousand cubic feet of natural gas in an almost unknown field in Arkansas, grow into the present consolidation of 15 major companies in Louisiana, Oklahoma and Texas, controlling 50,000 acres of proven gas land, with an open flow of 750,000,000 cubic feet a day and over 1,000 miles of pipe line transportation.

William Insull Discusses Utility's Niche

The place which the Northern Indiana Public Service Company occupies in the community was discussed by William Insull, manager, before a luncheon club in Lafayette, Ind., recently. He said the company in Lafayette serves 9,000 electrical and 7,000 gas customers, and the past year has seen an increase of 1,000 electric customers and 1,000 gas customers. The utility employs 150 Lafayette persons, with an annual payroll of $180,000.

McMasters Made Manager

William S. McMasters, for 15 years manager of the Freeport (Ill.) gas company, has been made manager of the gas department of the combined utilities companies in Rockford, Ill., effective April 9. Adam Gschwindt is manager of the Rockford Electric and the Rockford Gas Light and Coke Company, and Mr. McMasters will be in direct charge of the gas department under Mr. Gschwindt.

Siemsen Joins Nebraska Power & Light Company

William Siemsen, for 14 years with the People's Light Company, Davenport, Iowa, has resigned from the Davenport offices to become superintendent of gas distribution at Lincoln, Neb., joining the Nebraska Power & Light Company. The Nebraska Gas Company is a subsidiary of the United Light & Power, which also controls the Peoples Light.

Flahive Becomes Treasurer of Columbia System

Francis B. Flahive, formerly assistant treasurer of Columbia Gas & Electric Corporation, was elected treasurer of the Columbia System. For sixteen years he was associated with Stone & Webster in various financial and managerial capacities.

Francis B. Flahive

During the World War he spent two years with the U. S. Engineers in France. Soon after his connection with the Columbia system in 1927, he was made assistant treasurer.

Collins Becomes Manager of Gas Plant

M. J. Collins has been appointed manager of the Independence (Ia.) Gas Company plant, recently purchased by the Great Lakes Utilities Corporation. George H. Jones was the previous manager.

Trade News and Construction

U. G. I. Contracting Co.'s Activities

A contract has been received through Mitsubishi Shoji Kaisha, Ltd., of New York, for two seven-foot U. G. I. cone top carburetted water gas sets for the Tokio Gas Company, Tokio, Japan, together with automatic controls, blowing plant in duplicate, waste heat boilers and all other parts that make up the latest type U. G. I. apparatus.

The Iowa Railway & Light Corp., Marshalltown, Iowa, has placed an order for the installation of Chrisman Cycle and Chrisman three-way valve on the six-foot carburetted water gas apparatus at the Marshalltown plant. In addition to the Chrisman Cycle, other remodeling of the apparatus will be done.

The Iowa Railway & Light Company has arranged to make improvements and additions to its Boone plant and has contracted for the installation of a six-foot U. G. I. cone top carburetted water gas apparatus, which will be provided with Chrisman Cycle and Chrisman three-way valve.

The Consumers Gas Company, Reading, Pa., is having changes made to its gas compressor equipment and orders for this work have been placed with the U. G. I. Contracting Company of Philadelphia. The work involved includes the installation of an engine driven gas compressor, having capacity of 307,000 cubic feet per hour at 10 lbs. pressure, also the installation of an after-cooler, together with all foundations and connections. This installation will displace two compressors that have formerly been in service and which will be removed by the Contracting Company.

The Public Service Electric & Gas Company, Paterson, N. J., has placed orders for the furnishing of exhaust steam manifold for two 11-foot and two 10-foot 6-inch U. G. I. Carburetted Water Gas Sets. By the use of these manifolds and the other equipment included in the order, Public Service will be enabled to operate the apparatus with exhaust steam in place of the live steam supply which has previously been required.

Orders have been placed by Hartford City Gas Light Co. to furnish and install two motor driven gas compressors, each having capacity of 300,000 cu. ft. of gas per hour at 7 lbs. pressure. Also the necessary gas connections, governors and meters. To house this equipment the U. G. I. Contracting Company will also erect a booster house 73 ft. long by 36 ft. wide by 16 ft. high, together with all necessary foundations for the building and the equipment.

Stone & Webster, Inc., Open Office in Paris

As of March 1, Stone & Webster, Inc., have opened an European office at 2 Rue des Italiens, Paris, under the personal direction of Mr. James F. Case. This office is at the services of bankers and investors for investigations, valuations and reports on public utilities, industrial plants, municipal and other properties.

KNOWN FACTORS IN METER VALUE

In the Light of Deep-Rooted Identification with the Gas Industry

The history of American Meter Company traces back to the early days of the gas industry; days when pioneer experimentation was necessary and when the foundations of successful leadership were laid.

From the time when a great industry was finding itself, American Meter Company factories and trade marks have been identified with the progressive growth of the field. Organizers of these factories were men who contributed to the advancement of standard practices, shaped policies, made new economies possible and accelerated expansion.

The roots of this identification sink deep into past history. While the years have brought many changes, the same loyalty and sense of responsibility to enduring principles of manufacture that established confidence in early days remains a vital part of this organization today.

AMERICAN METER COMPANY
Incorporated

ESTABLISHED 1836

The World's Largest Manufacturers of Gas Meters and Allied Apparatus

New York 1836 | Philadelphia 1848 | Albany 1855 | Boston 1860 | Kansas City and Los Angeles
Baltimore 1866 | Erie 1888 | Chicago 1896 | San Francisco 1901

REMBRANDT PEALE

Instrumental in founding the first Gas Company in America

A Factory Rich In Progressive Background

Quoting
Business Almanac
April 24

"Aristocrats and plebians mingle in the brilliance of gas-lighted boulevards in populous Baltimore, 1816, America's first city to be lighted by gas."

It was Baltimore that first tackled gas lighting on a really practical scale and chartered the first American Gas Company in 1816.

The old Baltimore firm of Dickey, Baker & Company, which established the Maryland Meter trade name, was the visible culmination of early pioneer experience in gas meters since the first achievement of an American meter by Samuel Hill in 1832.

John M. Slaney, the elder, obtained the first practical meter installations in Baltimore in 1832, and with his son was actively engaged in meter making till 1859.

Since 1866, after the close of the Civil War, the present factory has operated under an unbroken continuity of progressive management, enriched by the experience of those who had established an even earlier background.

The result of this steady progress is shown today in the product; a real contribution to gas measurement engineering:

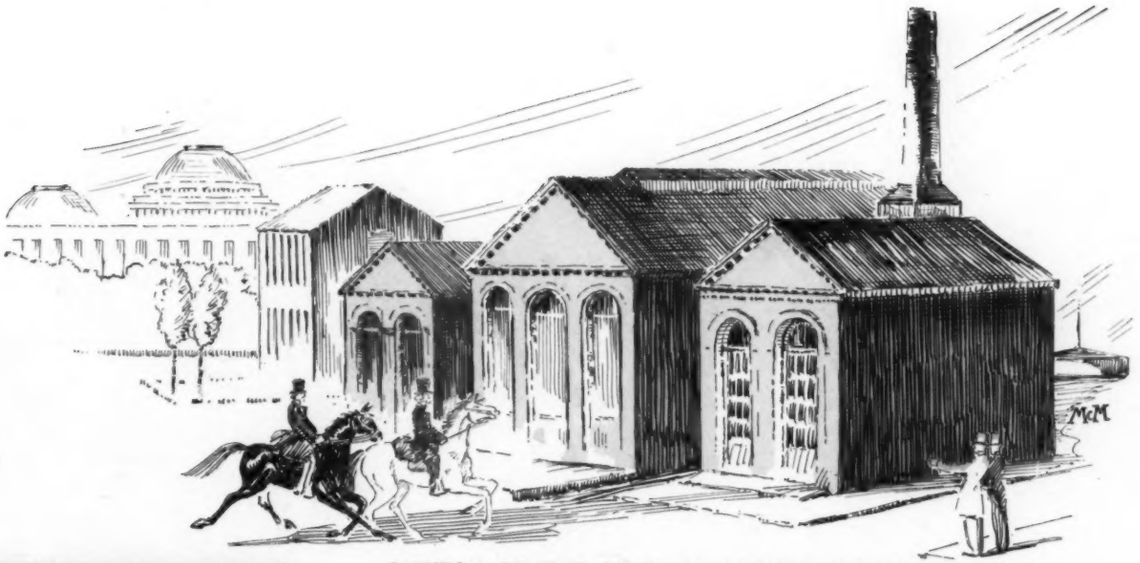
MARYLAND "B" TYPE GAS METERS
MARYLAND "C" TYPE GAS METERS

MARYLAND METER WORKS

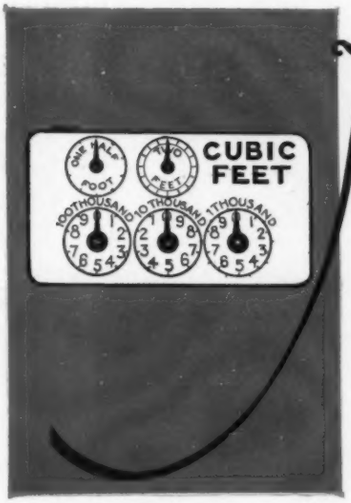
Baltimore, Maryland

ESTABLISHED 1866

AMERICAN METER COMPANY
Incorporated



SKETCH OF THE ORIGINAL PLANT—WASHINGTON GAS LIGHT COMPANY—CHARTERED BY CONGRESS 1848



Manufacturing Ideals Carried Through the Unbroken Continuity of 80 Years

THE Golden Days of 1849 live in memory.

One year earlier the Washington Gas Light Company was chartered by Congress, and that same year marked the establishment of Helme & McIlhenny.

A pioneer establishment that passes successfully through eighty years of manufacturing enterprise with untarnished reputation derives its character from the men who have soundly guided its welfare.

Such men were John McIlhenny, long known as the Dean of Meter Makers, and William Helme, once builder of Gas Works with Messrs. Perdicaris & Hoy. Both were gas engineers distinguished for their constructive achievements in the industry.

Helme & McIlhenny Meters of today embody the manufacturing ideals which have given them widespread recognition for quality, accuracy, and up to date design to meet modern requirements.

ESTAB. 1848
H & McI

HELME & McILHENNY
17th and Clearfield Sts., Philadelphia, Pa.
ESTABLISHED 1848
AMERICAN METER COMPANY
Incorporated

Sketch of Old Boston—
contemporary with the establishment
of Nathaniel Tufts

The Pioneering Spirit of New England

68 Years in Boston Manufacturing the Glover Type Meter

The PIONEERING SPIRIT of New England has been admirably reflected in the history of its Gas Industry since 1822.

The first New England Gas Company was also the second in the history of gas in the United States. It established the first New England meter shop in 1849 at the Old North End Gas Works on Commercial Street in Boston.

There, in the same year, Nathaniel Tufts, pioneer meter maker of New England, began his connection with the Gas Industry. When in 1860 he established his own meter factory, his former associates became his customers.

Time has served only to cement the close relationship and community of interest which was originally established between the Gas Industry of New England and the Founder of Nathaniel Tufts Meter Works.

NATHANIEL TUFTS METER WORKS

BOSTON

ESTABLISHED 1860

Specializing in the Manufacture of Gas Meters and Allied Apparatus for New England Requirements.

AMERICAN METER COMPANY
Incorporated

Battery of 55 Metric Meters for Industrial Customer

The accompanying photograph represents what is believed to be the largest battery of high pressure, positive meters in existence.

These meters have been recently installed to measure natural gas for a large industrial consumer at Kansas City. The battery contains fifty-five of the new 500-B iron case Metric meters, the engineering characteristics of which were published in American Gas Journal, March, 1928.

Capacity per meter is 10,000 cubic feet, with a 2-inch differential.

These meters are especially designed for industrial service. In addition to giving increased capacity, they are characterized by marked decrease in weight over Metric meters previously manufactured to meet similar requirements.

Progress With Natural Gas Line

The rate of progress being made by the engineering crew leads to the belief that Denver will have the Amarillo natural gas by July. The Colorado Fuel & Iron Company, the largest coal mining company in the State of Colorado, are so eager for natural gas at their steel mills in Pueblo that it is laying a ten-mile pipe line to get this gas and feed all its plants.

This will throw a lot of coal on the market, and, mayhap, at a reduced price, as other industries are going to substitute natural gas for coal.

President of Manufacturing Company Training to Make 1928 Olympic Team

Joseph F. Dunn, president or the Dun-Rite Clock Device Company, and inventor of the Dun-Rite Minit-Klox and Dun-Rite Time Control, has started training to condition himself as a participant in the coming tryouts to represent the United States at the Olympic Games which will be held this year at Amsterdam, Holland.

While at Yale Mr. Dunn was a member of the swimming and gymnastic teams, and for the past fifteen years has represented the New York Athletic Club in fancy diving and gymnastics. His company is an A. G. A. member and has exhibited its products at three annual Convention-Expositions.

Semet-Solvay Engineering Corporation to Install Complete Coke Handling System for Woodward Iron Co. —Other Contracts Received

The Woodward Iron Company, Woodward, Ala., has awarded a contract for the construction of a complete new Semet-Solvay coke handling system, including wharf, screening and loading plant. The new equipment is planned to take care of the entire output of 230 ovens, estimated up to 2,500 tons of coke daily.

The Semet-Solvay Engineering Corporation of New York is building an 11-foot water gas generator for the Consumers Power Company, Flint, Mich., East Street plant. The generator will be of standard Steere design. A 42-foot angle connection will also be furnished.

A 5-foot Steere water gas generator is being installed on the plant of the Interstate Power Co., Owatonna, Iowa. The installation includes standard Steere lining and a quick opening gate valve.

The Fort Madison, Iowa, Gas Light Company has purchased a Steere 6-foot water gas machine. New plant piping and improvement of plant apparatus are included in the contract.

Gas Machinery Co. to Erect Purifiers at Jefferson City

The Missouri Power & Light Corp., Jefferson City, Mo., has awarded contract to furnish and erect two 20 feet diameter by 12 feet high Duplex Steel Purifiers, complete with trays and tray beams, self-sealing covers and doors, and valves and connections.

The new purifiers will be located so that the new building can be completed over the present generating and machinery rooms of the gas department, all to conform with the general type of architecture of the building covering the electrical plant.

Order for 6 foot 6 inch water gas equipment, to be installed in the gas works at Gloucester, Mass., has been received.

(Construction News Continued on page 94)

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912,

Of American Gas Journal, published monthly at New York, N. Y., for April 1, 1928.

State of New York, } ss.
County of New York, }

Before me, a Notary Public in and for the State and county aforesaid, personally appeared Stanton G. Krake, who, having been duly sworn according to law, deposes and says that he is the Business Manager of the American Gas Journal, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 411, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are:

Publisher, American Gas Light Journal, Inc., 53 Park Place, New York.

Editor, H. M. Riley, Flushing, N. Y.

Managing Editor, none.

Business Manager, Stanton G. Krake, Jamaica, N. Y.

2. That the owner is:

American Gas Light Journal, Inc., 53 Park Place, New York.

Stanton G. Krake, Jamaica, New York.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

STANTON G. KRAKE.

Sworn to and subscribed before me this 11th day of April, 1928.

(Seal) ROZELLE BENNETT.

(My commission expires March 30, 1929.)

Free! a Text Book on Gas making

This valuable manual will be sent to you without charge or obligation.

It tells, in plain language, how coal and water gas are made. Explains how to save in cost of labor and materials. Tells how to locate where trouble exists. Shows plans for laying out a typical gas plant. Tells how to control all the important operations in the plant.

It is a veritable little encyclopedia on the subject of gas making. No matter whether you are the superintendent, engineer or the president of a gas works, you will find this a most interesting and instructive text book.

Write for questionnaire to be filled out for your free copy, or simply mail the coupon. The edition is limited and the regular price is $1.00. So write at once.

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Kindly send me a questionnaire for free copy of your manual No. 7, "Manufactured Gas."

Name .....

Company .....

Address .....

Town ..... State .....

ENGINEERING ASPECTS OF NATURAL GAS TAXATION

(Continued from page 38)

pletion an amount equal to 27½ per cent of the gross income from the property during the taxable year, but such deduction shall not exceed 50 per cent of the net income of the taxpayer (computed without allowance for depletion) from the property. In no case shall the deduction computed under this paragraph be less than it would be if computed upon the basis of the cost of the property or its value at the basic date, as the case may be. In general, "the property," as the term is used in Section 204 (c) (2) refers to the separate tracts or leases of the taxpayer.

There is no doubt that the above provision has lessened considerably both filing and administrative work particularly in the smaller cases including most of the lessors. However, the degree of simplification is frequently overestimated

It was soon discovered that this provision created both accounting and engineering difficulties. Perhaps the most difficult feature in the application of this provision is the determination of gross income from the property. Apparently the gross income in the case of lessee is the income from the sale of the gas from the property exclusive of royalty gas. In some cases, however, income is reported from the gross gas produced, depletion computed at 27½ per cent of the gross receipts, and then the amount paid out as royalties deducted, and then the amount in a double deduction, because the royalty is not income to the lessee.

Many of the producers of oil and gas also transport or convert the product before selling it. In some cases the gross income reported includes the income received at the point of ultimate sale by the taxpayer. Obviously, to compute depletion at 27½ per cent of this gross income would be basing depletion on transportation and manufacturing as well. The difficulty involved, therefore, is the segregation of gross receipts attributable to the income from oil or gas at the well and that attributable to transportation and conversion. This feature is of particular importance in the case of natural gas producers extracting the gasoline from the gas before selling it, or transporting it for long distances through pipelines and disposing of it to distributing companies at the gates of the various cities. The point to remember is that depletion is provided to take care of the annual reduction in the quantity of oil or gas in the ground as it is reduced to possession at the mouth of the well, consequently the 27½ per cent depletion cannot logically apply to the gross income derived from the transportation or conversion of the product.

Depreciation

The depreciation allowable as a deduction from gross income is a question of fact, consequently the determination of the depreciation of the gas well

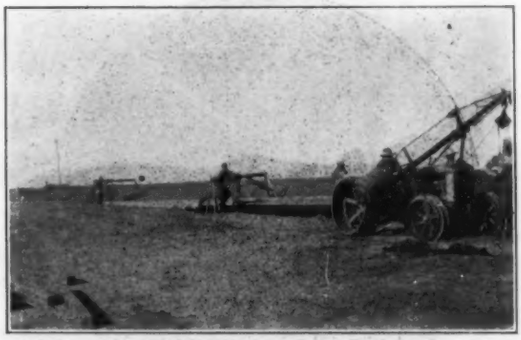
(Continued on page 92)

The Big Three

1—INTERSTATE

A 22″ natural gas line laid from Monroe (La.) fields to Baton Rouge, La., by the Interstate Natural Gas Co. 35 miles protected with BITUMASTIC ENAMEL. Also the extension from Destrehan to New Orleans.

2—EMPIRE



A 20″ natural gas line running for 250 miles between Pampa, Tex., and Wichita, Kan., and coated for approximately 95% of the entire distance with BITUMASTIC ENAMEL. Laid by the Empire Gas & Fuel Co.—now the Cities Service Gas Pipe Line Co.

3—AMARILLO-DENVER

340 miles of 22″ and 20″ pipe laid between Amarillo, Tex., and Denver, Col., by the Colorado Interstate Gas Co. Ford, Bacon & Davis, Inc., engineers. 87% of the coatings used on this line were BITUMASTIC products.

BITUMASTIC

REG. U.S. PAT. OFF.

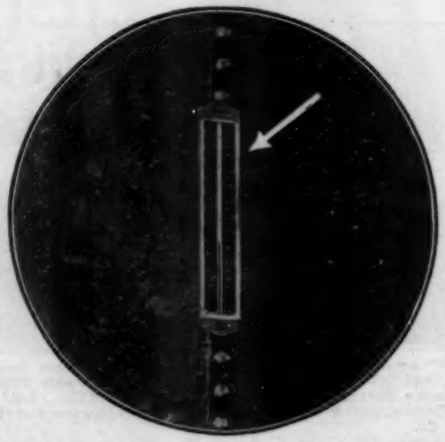
ENAMEL

was applied for the protection of all three of these great lines which, combined, represent an investment of more than $50,000,000. It is apparent that an enormous loss would result if corrosion were permitted to attack these lines. It is equally apparent that the engineers in charge are unanimous in the opinion that BITUMASTIC ENAMEL provides the surest, most practical and most economical means of preventing such a loss. Details of this work have been described in a series of three folders. If you are not receiving this series, communicate with us and we will be glad to place your your name upon our mailing list.

Wailes Dove-Hermiston Corporation
17 Battery Place, New York

Philadelphia Cleveland Chicago Tulsa Houston San Francisco

Water Condenser Inlet



Just one of the many places in the gas plant where a Tycos Thermometer proves its worth.

Tycos Temperature Instruments
INDICATING-RECORDING-CONTROLLING

FOR EVERY GAS PLANT NEED

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Gas Plant Catalog upon request.

Taylor Instrument Companies
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Short & Mason, Ltd., London

There's a Tycos or a Taylor Temperature Instrument for Every Purpose

ENGINEERING ASPECTS OF NATURAL GAS TAXATION

(Continued from page 90)

equipment, pipe line, etc., on a natural gas property becomes an engineering problem just as in any city gas rate case.

Under the various revenue acts the bureau has permitted the natural gas producer to depreciate its equipment either at a flat rate or on the unit basis, which is in accordance with the annual production of gas. Although the rates of depreciation of various types of equipment are established, the conditions in the different fields vary so greatly as to materially affect the rate of depreciation. For instance, in certain fields, owing to salt water conditions, the pipe line and well casing will deteriorate at a very rapid rate, whereas in other fields the life of such equipment may be very much longer. Obviously, it is only fair to take those facts into consideration and establish a rate commensurate with the prevailing conditions in the field. Upon proper presentation of evidence, the bureau will permit depreciation rates in excess of what might appear to be the average rate for all fields. Depreciation may also be taken on the unit basis, that is, at the rate of annual production of the gas. In that case, the depreciation rate is established in a manner similar to that of depletion, namely, the investment in the equipment divided by the expected quantity of gas in the property. This rate multiplied by the annual production gives the amount of depreciation sustained during the year. The advantage of this method of depreciation is that the investment is returned at a rate commensurate with the income from the property. The method to be used is largely optional on the part of the taxpayer, the only requirement being that the books be kept consistently on one basis or another.

The Settlement of Natural Gas Cases

The engineering aspects of natural gas taxation under the various revenue acts have been discussed. What is of further important consideration to the natural gas producer and to the Bureau is the disposition of the various tax cases involving natural gas production. Both are concerned with the expeditious adjustment of the taxes. The industry is naturally anxious to have the proper taxes determined, and likewise the bureau is anxious and is making every effort to complete the work as rapidly as possible. The revenue acts definitely impose upon the bureau the responsibility of verifying and adjusting the taxpayer's claims, consequently it is essential that the proper information be made available to permit the performance of this task.

Many of the cases involving engineering consideration can easily be disposed of by means of submitting the proper information in connection with the income tax return and through ordinary correspondence. There are a number of cases, however, where the questions involved are more complex and

(Concluded on page 94)

AUSTIN "LITTLE WONDER"

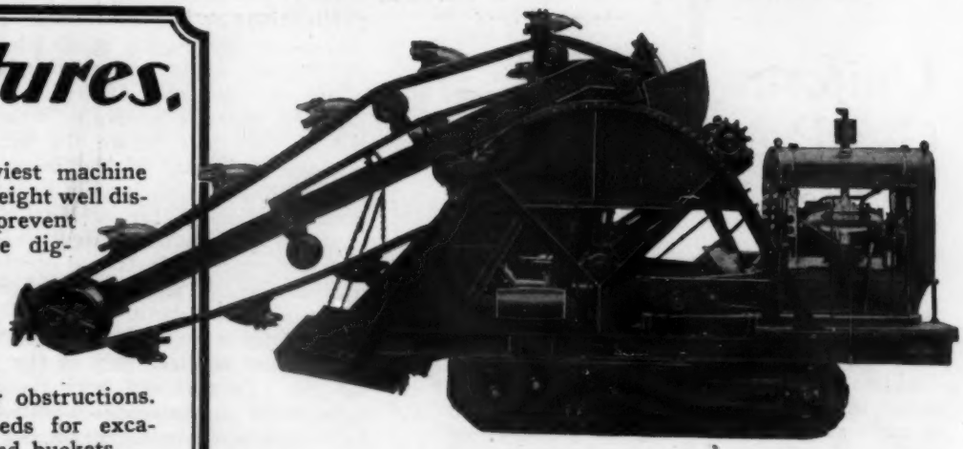
PUBLIC SERVICE DITCHER

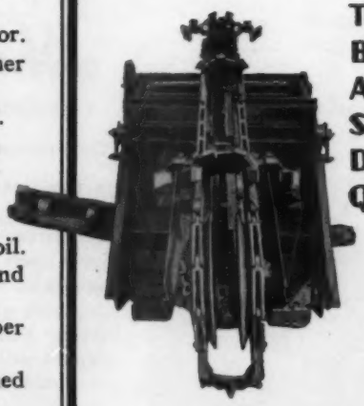
for Digging

SHALLOW SEWERS, LATERALS, PIPE LINES GAS LINES and TELEPHONE CONDUIT

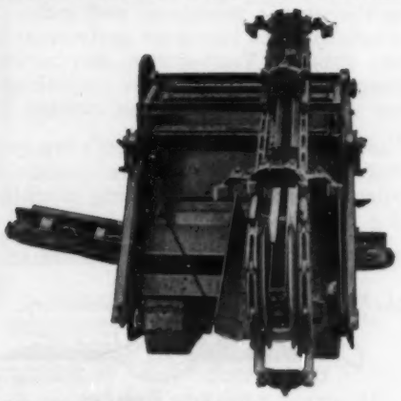
features.

1. Heaviest machine built. Weight well distributed to prevent jumping while digging and hold trench line.
2. Digs 9" from trees, poles or other obstructions.
3. Two speeds for excavator chain and buckets.
4. Two speeds Conveyor Belt.
5. Quick Shift Conveyor.
6. Boom shifts to either side of machine.
7. Positive boom crowd.
8. Only ditcher with a positive spring type bucket cleaner.
9. Only ditcher that will successfully dig sticky soil.
10. Digs 30" wide, 8' and 10' deep.
11. Digs 12" to 100" per minute.
12. Works in confined spaces.
13. Safety factors prevent damage to machinery.
14. One man operated.





THE FASTEST DIGGING DITCHER BUILT. . PATENTED FEATURES ALL STEEL CONSTRUCTION SIMPLE-COMPACT-RUGGED DIGS ANY SOIL FORMATION QUICKLY AND ECONOMICALLY



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Bristol's Indicating Electric Tachometer may be used separately, or in combination with a recorder, and mounted in any convenient location.

Uniform Gas Pressures In the Distribution System

To insure maintenance of proper gas pressures about the distribution system it is necessary to make sure that boosters, both at the station and in district stations, are operating efficiently.

—which requires that operatives have some dependable means for ascertaining the constancy of booster speeds.

For this purpose Bristol's Electric Indicating Tachometer is especially well adapted. A glance at the instrument gives the exact booster speed being maintained—showing whether boosters are running at a rate which is keeping up the proper pressures, and indicating when speeds must be increased or decreased. In this way Bristol's Tachometers can be the primary means of holding favorable conditions throughout the entire distribution system.

The usual features of Bristol's ruggedness and simplicity of operation are contained in this type of instrument—insuring trouble-free service almost indefinitely.

Write for complete information

The Bristol Company *Waterbury, Connecticut*

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ENGINEERING ASPECTS OF NATURAL GAS TAXATION

(Continued from page 92)

require more facts and perhaps opinions and judgment. In such cases it frequently becomes necessary to make field investigations or discuss the proposition in conferences. To those not particularly familiar with the procedure of settling such cases, it might be of interest to note that it is largely a question of the presentation and verification of the engineering facts. Both parties thoroughly understand the conditions under which natural gas is produced and are familiar with the general problems involved. It is this common knowledge which easily permits the meeting of the minds, either in field investigations or in conferences. In the field the conditions are thoroughly studied both by the taxpayers and Bureau Engineers, and if it is shown that an out-of-the-ordinary rate of depletion or depreciation is justified, there is generally little difficulty in establishing that fact before the bureau. Likewise, in conferences many of the most intricate questions can be disposed of, largely because of the common understanding of the problems involved. The advantages of personal conferences in cases where any real difference in facts and opinions have arisen are well established and equally appreciated by the taxpayer and the bureau. The duties of the bureau engineers are very largely fact-finding in nature and are an intermediate step in the final assessment of the tax. To that end, with the desire to obtain results based on the actual conditions prevailing in the fields and in the industry, the bureau invites full discussion and deliberation at all times.

CONSTRUCTION NEWS

(Continued from page 89)

Western Gas Construction Co. to Install Purifier at Rockford

The Western Gas Construction Company of Fort Wayne, Ind., has been given the contract for the furnishing and installing of a 3 compartment steel purifier for the Rockford Gas Light and Coke Company at Rockford, Ill. Size of each compartment 30 feet by 30 feet by 13 feet deep. This purifier will be equipped with gantry crane carrying an oxide elevator and conveyor. This purifier will be of the elevated type and will be equipped with bottom oxide dump doors, 20-inch circle series connections and Western "DF" reversing valves.

Contract has been awarded for the furnishing of a lot of 24-inch and 30-inch overhead steel piping; also a 20-inch steel manifold with valves for three purifiers. The 20-inch manifold and valves taking the place of their present 16-inch purifier manifold. This material is for Joliet, Ill.

Contract has been awarded for an 8-foot 6-inch water gas machine complete with hydraulic control equipment to be installed in the plant of the Utah Gas and Coke Company, Salt Lake City, Utah.

There will also be furnished a 24-inch steel hot line from the present sets to the relief holder.

(Continued on page 96)

THE REAL FREIGHT ELEVATOR

There is one fact about the Ridgway Elevator that makes it the **Factory Elevator par Excellence**

IT ALWAYS GOES

Another striking fact apart from the Ridgway Elevator Performance is this:

IT IS PURCHASED BY THE BIG SUCCESSES

Standard Oil Co.
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EVERY ONE WORTH MILLIONS

Here is a cross section of our order book and judge for yourself. There are many great advantages in the **Home Owned Power Plant** besides knowing that no public utility concern has you by the neck and trousers and one of these is the fact

YOUR STEAM SUPPLY PERMITS YOU TO HAVE PERFECTION IN ELEVATOR SERVICE BY

"HOOKIN' 'ER TO THE BILER"

CRAIG RIDGWAY & SON CO.

Over 3,000 *in daily use.* COATESVILLE, PA.

Direct Acting

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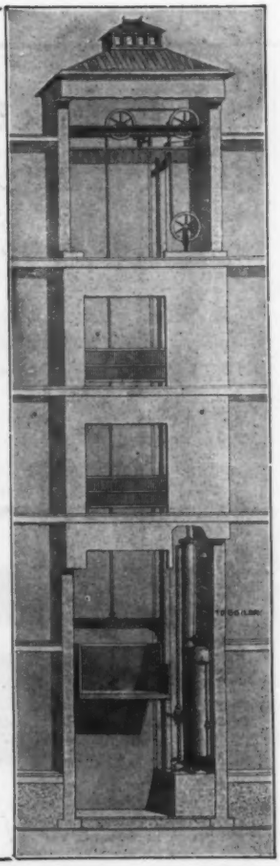

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Gas Meters
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SUPERIOR METER CO.
167 - 41st Street
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For Refractory Repairs and New Construction

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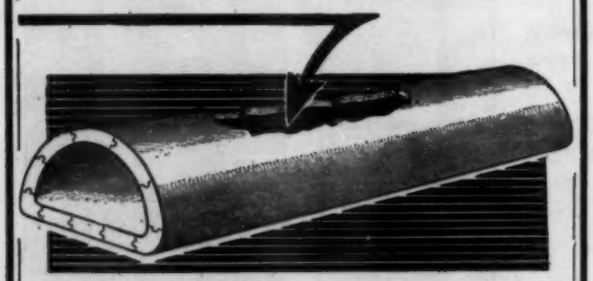
IGNISITE

(Reg. U. S. Pat. Off.)

HIGH TEMPERATURE CEMENT

This broken retort was repaired with IGNISITE without shutting down the bench. The hole was two feet wide by six feet long.



"To avoid a shut-down, we filled the entire break while the retort was hot, forcing chunks of IGNISITE in place with a long paddle.

"While average repairs with other materials had never exceeded six weeks, this major repair LASTED OVER SIX MONTHS."

How about your own refractory linings in Gas Sets, Benches, Boiler Settings, etc.?

Get ready for emergency repairs. A Drum of IGNISITE may save a Ton of Trouble. Use it for new construction, too.

IGNISITE was developed by experts in the use of refractory cements after years of practical service tests. Strictly uniform in grade, easy to mix and handle, sets at normal temperatures, gives long service. When properly used there is no shrinkage. Gives a perfect surface seal at 1200° to 1400° F. Withstands temperatures up to the point of fire brick failure.

Packed in steel air-tight drums of convenient size from 200 to 800 lbs.

Send this Coupon

The M. W. Kellogg Co., Inc. (Refractories Division), 9 Dey Street, New York.

Send literature on IGNISITE and tell me how it is used for construction and maintenance in

[ ] Gas Benches [ ] Oil and Water Gas Sets
[ ] Coke Ovens [ ] Gas Fired Furnaces
[ ] Boiler Settings [ ] Bonding Fire Brick

Name .....
Position .....
Company .....
Address .....

CONSTRUCTION NEWS

(Continued from page 4)

The Western Gas Construction Company have been awarded contract for furnishing new generating equipment for the Peoples Light Company of Davenport, Iowa.

TRADE CATALOGS

Catalog 328 illustrates and describes the Haines new Model 16 Loader for handling bulk materials from stock-pile to truck or other carrier. Action pictures and complete specifications are given. A copy will be sent upon request to George Haiss Mfg. Co., Inc., Park Ave. & 141st St., New York, N. Y.

The Cleveland Gas Burner & Appliance Co., 3702 Superior Ave., Cleveland, Ohio, has recently issued Catalog 28, which contains specifications and installation data on Barber Patented Jet Gas Burners for converting coal fired house-heating furnaces into gas fired units. It contains valuable data for the gas house-heating man. Copy will be sent upon request.

Linde Air Products Company, 30 East 42nd St., New York City, has just issued a booklet which illustrates and describes welding as applied to house-heating systems. Copy will be mailed upon request.

A new catalog has been published by Chaplin-Fulton Mfg. Co., 28 Penn Ave., Pittsburgh, Pa., describing the Fulton Gas Regulators with Automatic Cut-off for Natural Gas and Duplex Sensitive Gas Governors for Artificial Gas. The catalog is well illustrated and contains valuable installation and engineering data. Copy upon request to Chaplin-Fulton.

Reznor Manufacturing Company, Mercer, Pa., has issued a catalog which describes their Reznor Orthoray heaters, which function on the radiant principle. Reznor Reflector, Wall and Garage Heaters are also dealt with. The catalog is fully illustrated. Copy will be sent upon request to the Reznor Manufacturing Company.

A copy of illustrated Bulletin No. 10, describing the Sprague Standard Line of Cast Iron Meters, will be mailed upon request to Sprague Meter Company, Bridgeport, Conn. This bulletin also illustrates their Display Meter with transparent front, back and top.

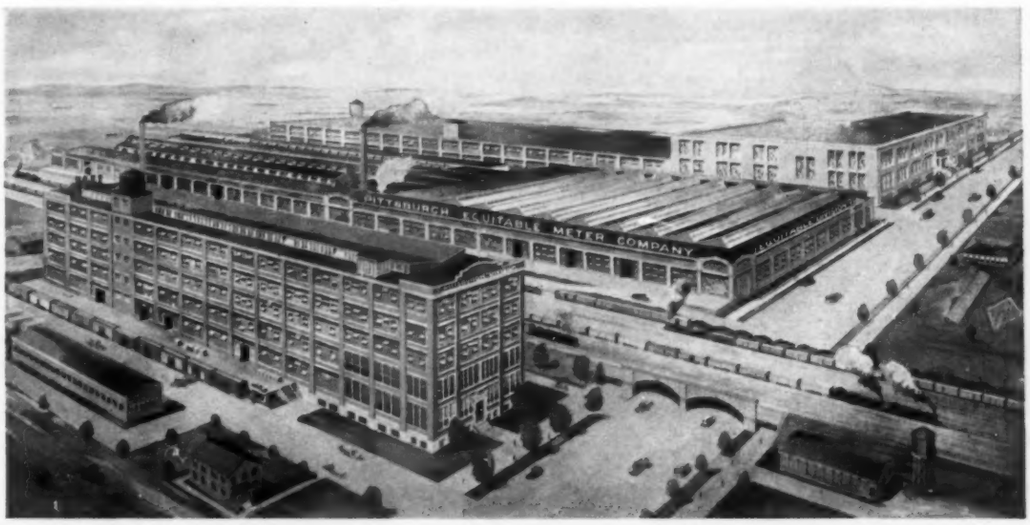
Catalog DQ-2 is an attractive booklet which describes and illustrates the Sulzer System for the Dry Quenching of Coke. The illustrations, curves and tabular data are well arranged. Those interested may obtain a copy upon request to International Combustion Engineering Corp., Madison Ave. and 35th St., New York City.

Blotters Help Sell Incinerators

The Laclede Gas Light Company, St. Louis, Mo., is using blotters to sell gas incinerators. Each appliance salesman carries a supply of these blotters and leaves several with each prospect upon whom he calls.

Approximately one-third of the space is used to display newspaper headlines, which all tell the same story, "loss due to fire." The remainder of the blotter is given over to setting forth the Gas Incinerator as a means to prevent these costly fires. The headline over the copy reads: "Protect Your Property from Ravaging Fires," and the copy which follows states that "rubbish and refuse collect in the basement and invite fire. A Gas Incinerator will quickly and efficiently dispose of this rubbish and eliminate a dangerous fire hazard."

According to J. J. Burns, manager of the commercial department, these blotters have resulted in several sales, although the method has been in practice only a short time.



Factories and General Offices, Pittsburgh, Pa.

DURING the past two years in which the gas industry has had a normal growth, the Pittsburgh Equitable Meter Company has more than doubled its business. While this is a sign of the increased satisfaction with our product, instead of making us content with our progress, it has made us more anxious to serve the gas industry in every possible way.

We are devoting a large part of our income to scientific research work in our Chemical and Physical Laboratories and in our Engineering Department. We believe we have the best technical equipment for testing and developing better devices for gas measurement and gas pressure regulation.

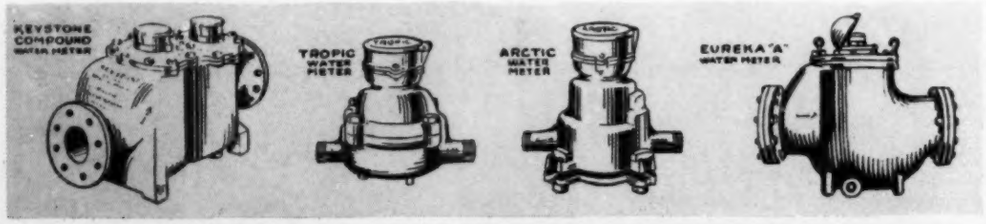
Our resources are at the disposal of the gas industry. A number of new devices are in the process of perfection which will afford definite illustrations of progress in the branch of industrial science to which this company has devoted its efforts.

PITTSBURGH EQUITABLE METER COMPANY

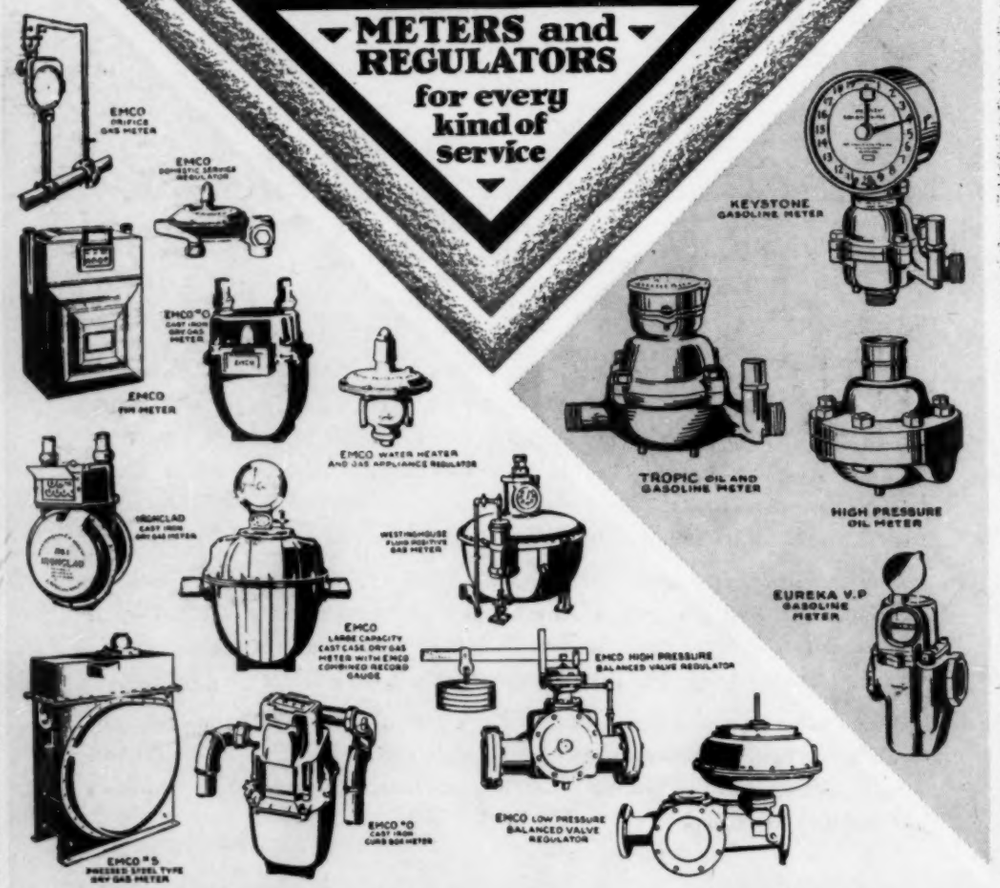
MAIN OFFICE AND WORKS
PITTSBURGH, PA.

BRANCH OFFICES

NEW YORK CHICAGO COLUMBIA,S.C. LOS ANGELES DALLAS TULSA SEATTLE KANSAS CITY SALT LAKE CITY



METERS and REGULATORS for every kind of service


EMCO ORIFICE GAS METER
EMCO DOMESTIC SERVICE REGULATOR
EMCO "D" CAST IRON DRY GAS METER
EMCO FAN METER
EMCO WATER HEATER AND GAS APPLIANCE REGULATOR
KEYSTONE GASOLINE METER
TROPIC OIL AND GASOLINE METER
HIGH PRESSURE OIL METER
ORANGE-CLAD CAST IRON DRY GAS METER
WESTINGHOUSE FLUID POSITIVE GAS METER
EMCO LARGE CAPACITY CAST CASE DRY GAS METER WITH EMCO COMBINED RECORD GAUGE
EUREKA V-P GASOLINE METER
EMCO HIGH PRESSURE BALANCED VALVE REGULATOR
EMCO "D" CAST IRON CURB BOX METER
EMCO LOW PRESSURE BALANCED VALVE REGULATOR
EMCO "S" PRESSED STEEL TYPE DRY GAS METER

PITTSBURGH EQUITABLE METER COMPANY

MAIN OFFICE AND WORKS

PITTSBURGH, PA.

BRANCH OFFICES

NEW YORK CHICAGO COLUMBIA, S.C.

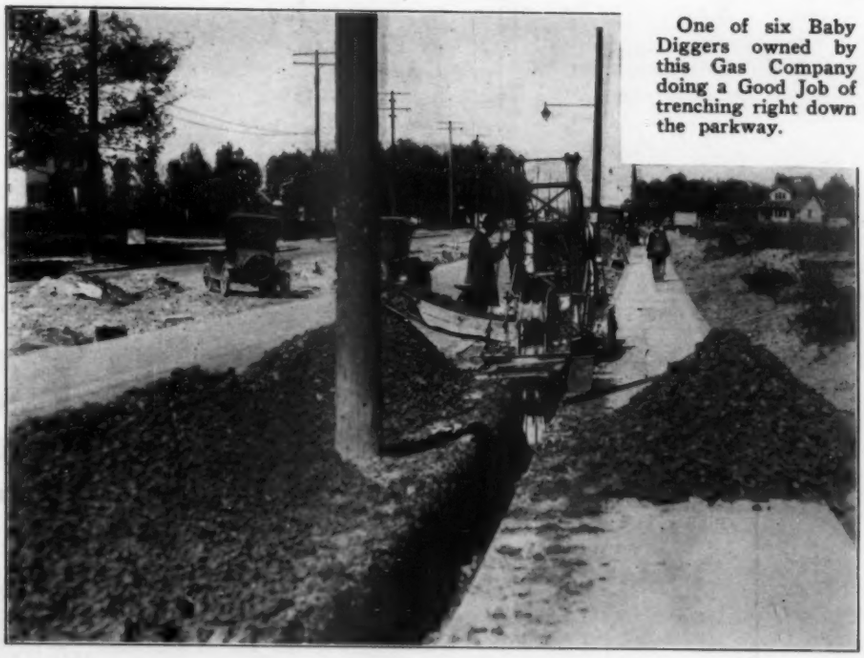
LOS ANGELES DALLAS TULSA

SALT LAKE CITY

KANSAS CITY

SEATTLE

ORMISTON-DOYLE COMPANY, PITTSBURGH



One of six Baby Diggers owned by this Gas Company doing a Good Job of trenching right down the parkway.

How much do your digging costs affect pipe-laying expense?

YOU'LL be surprised to know what a large percentage of Pipe-Laying Expense is Digging-Expense. If you have a Baby Digger you'll know that this expense has been reduced to its minimum.

Practical features which mean most from a Dollars and Cents standpoint have made Baby Diggers unequalled for gas distribution work. That's why many of the larger Gas Companies are operating them in fleets.

THE CLEVELAND TRENCHER COMPANY

"Pioneers of the Small Trencher"

20100 ST. CLAIR AVENUE CLEVELAND, OHIO, U. S. A.

THE BABY DIGGER

REGISTERED

Use

DIXON'S SILICA-GRAPHITE PAINT

Consider the high cost of repainting when specifying paint and use one that will not have to be renewed in a few years.

The Dixon Line of Graphite Paints is one that will fully meet your requirements as to long life and economy. They will give better protection for exposed metal or wood work at lowest cost per year of service.

The pigment, flake silica-graphite, provides a tough, yet elastic, film that expands and contracts with heat and cold without cracking or peeling. The graphite and silica are naturally and not artificially combined, resulting in long life, efficient surface protection, elasticity and resistance to dampness.

Write for Booklet 231-B.

JOSEPH DIXON CRUCIBLE COMPANY

JERSEY CITY NEW JERSEY

There Is A Demand!

Last season's sales clearly demonstrated that the public is DEMANDING SOMETHING OUT OF THE ORDINARY in fireplace heaters. That "something" must provide not only an efficient radiant heater, but must also possess artistic merit of a high order, of such character that it will blend harmoniously with the room furnishings and enhance their beauty.

And what can fill this demand better than Homestead "Woodfires" and "Coalfires," both natural appearing open fires.

The logical adornment of the fireplace is either a pile of logs or a metal container of coal—nothing else is so appropriate—nothing else will fill the space with such perfection.

In proof of this, note how, in such high-grade periodicals as "House Beautiful," "House and Garden," "Ladies' Home Journal," "Pictorial Review," etc., etc., in all the pages devoted to decoration in the home, the artist and decorator introduces as a prime factor in the decorative scheme for the fireplace either a LOG FIRE or a BASKET OF COALS,—NEVER ANYTHING ELSE.

Meet the Demand!

The wise Commercial Manager will therefore be prepared to meet the constantly growing demand, for the ONLY appropriate embellishment for the open fireplace, Homestead "Woodfires" or "Coalfires," which combine the heating qualities of the best radiant heater plus a beautiful ornamental unit that duplicates the real log fire or coal fire, lighted or unlighted.

Note:-

For the first time Homestead "Woodfires" and "Coalfires" will be exhibited in the Southwest at the Natural Gas Convention in Dallas, Texas. It will pay you to visit

BOOTHS 135-137

The illustration here shows how appropriately the Homestead "Coalfire" fits in with the early New England setting. No other fire, except a Homestead "Woodfire," would be as attractive as well as utilitarian.

HOMESTEAD HEATER COMPANY, Inc.

Selvage Street and Fabyan Place WALTER KENNEDY, PRESIDENT **Newark, N. J., U. S. A.**

Never An Accident Where This Regulator Has Been Installed--

It is absolutely essential that safety precautions be taken where houses or small consumers of gas are supplied from lines under high pressure.

The Fulton House Regulator

was designed for this purpose. It is provided with an Automatic Cut-off. Should any accident happen to the line or the regulator, no danger can result to the consumer. The Automatic Cut-off provides automatic safety—*real safety!* For this reason, there has never been an accident where a Fulton Regulator has been installed.

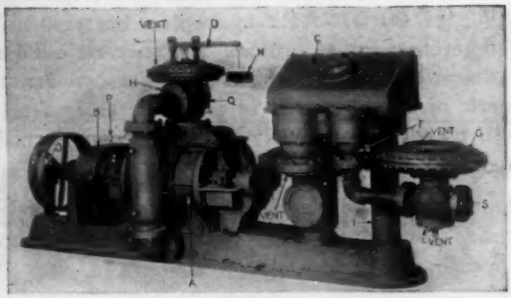
Write for our catalogue. Also ask for our booklet containing directions for setting and operating all types of gas regulators. Gas men will find both of value.

The Chaplin-Fulton Mfg. Co.

Organized 1884—Oldest Builders of Gas Regulators in the Country. Built in All Sizes. From 1 inch to 24 inches: For All Service. 1 Oz. Up to 1,600 Lbs. Pressure to Square Inch.

28-40 Penn Avenue **Pittsburgh, Pa.**

The Improved Kemp System



THERE is but one KEMP SYSTEM. There is nothing just as good —no other way to get the results which are had from the KEMP SYSTEM.

The big improvement in conditions and maximum benefits which you desire cannot be had by changing to high pressure, some other type of inspirator or a mixing fitting. It costs but little more to utilize with your operations some of the special applications which are common to the KEMP SYSTEM and are productive of the greatest benefits. The KEMP SYSTEM is the best investment.

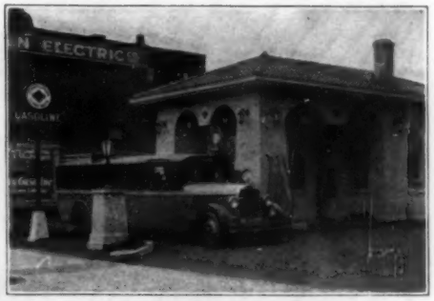
Write, phone or telegraph today for a representative

THE C. M. KEMP MFG. CO.

Baltimore, Md.

STEAM FOR HEAT — GAS FOR FUEL

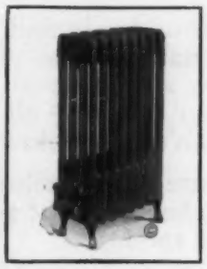
Faneuil Hall Markets, Boston, Mass. Gasteam Equipped



Cleve Company Filling Station Carnegie & East 35th Street, Cleveland, Ohio. Gasteam Equipped

"Everywhere" You Look—There's Heating Business for You with Clow Gasteam Radiators

Home of C. R. Minor, Shreveport, La. Edward F. Neild, Architect. Gasteam Equipped



Here are just a few of the everyday Gasteam jobs: a gas station, a produce market, a beautiful home, a store.

There are hundreds of other types of heating jobs that are equipped with Clow Gasteam. Every gas man should look around his district. There's heating business to be found almost everywhere.

Here's a tip: switchmen's and bridgetender's towers, owl lunch rooms, contractors' shacks. They are all some of the more unusual types.

Liggett Building, Jacksonville, Fla. Gasteam Equipped

Each Clow Gasteam Radiator is an independent steam heating plant using gas for fuel. Unvented, they provide moist heat (necessary in dry climates), Vented—the products of combustion are carried off, and a dry heat is provided.

Everyone interested in gas and heating should read our catalog. Send for this free book today.

JAMES B. CLOW & SONS
201-299 North Talman Avenue, Chicago

CLOW GASTEAM

A. G. A. and Underwriters' Laboratories Approved

STOCKED IN EVERY SECTION OF THE COUNTRY

GAS

costs less to use

THE cost of crude fuel goes far beyond its original purchase price. Unloading, storage, ash removal, spoilage, insurance, tied-up capital — all represent extra costs you can't overlook.

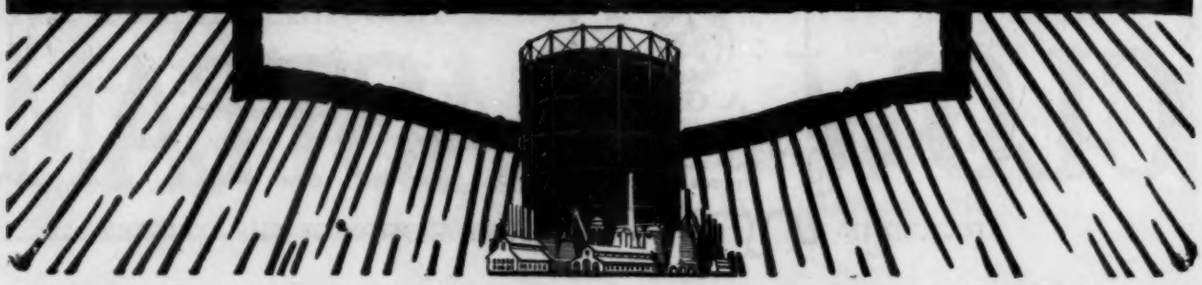
When you use gas you eliminate these extra and sizable charges — out go the scavengers of waste and spoilage.

You have a fuel that affords you the most modernized type of fuel service. It is delivered to your burners in any desired quantity instantly — its uniform quality and ease of control bring efficiency to your operations and profit to your ledgers.

Get the facts about gas. Your local gas company can tell you, or write to

American Gas Association
420 Lexington Avenue, New York City

YOU CAN DO IT BETTER WITH GAS



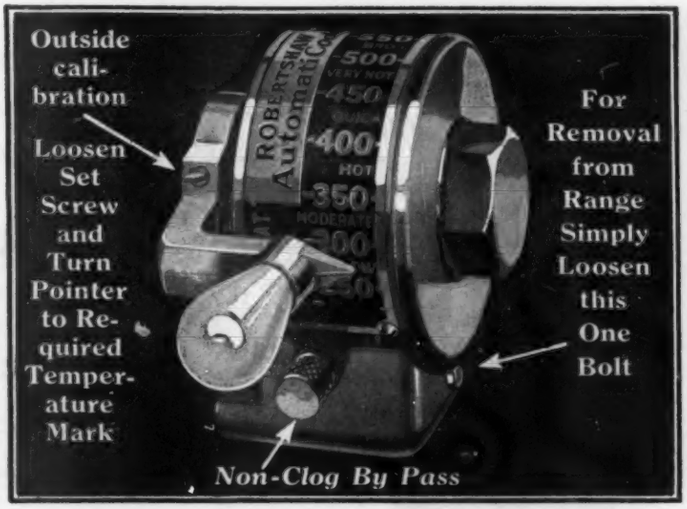
The Industrial Section of the A. G. A. is broadcasting th e above advertisement in a number of engineering and industrial papers for the benefit of the gas industry at large

You Should Get Acquainted with the Latest Features

of the

"B" Type

ROBERTSHAW AutomatiCook



Outside Calibration (*a comparatively late improvement*) Takes just a few seconds to change the temperature setting if required, by means of a convenient set-screw on the temperature pointer. Merely loosen the set-screw, move the pointer to the proper temperature mark on the dial, and then tighten the set-screw.

Quick Removal (*a feature introduced about a year ago*) Should the "B" Type AutomatiCook become damaged for any reason, necessitating replacement, it can be removed without disconnecting the range or disturbing the linings or the piping. Requires no mechanical servicing or repairs on the job. Simply loosen one bolt, replace the Thermostat with a spare and tighten the bolt. The job can be done in less than a minute's time.

Non Clog By-Pass Pilot (*Successfully used for more than a year*) Will not clog nor bind. Always moves freely and maintains its adjustment. Eliminates servicing, adjusted by turning either to the right or left.

Another Improvement. The AutomatiCook is now being equipped with a Raised Non-Corrosive Valve Seat which will resist the corrosive action of gas, eliminating any possible trouble from this source.

Gas ranges will soon be coming through to you with AutomatiCooks having all these advantages!

LEARN THE DETAILS IN ADVANCE
WRITE FOR COMPLETE INFORMATION

If you will also send us the names of all employes handling, selling or installing Gas Ranges, we will be pleased to send them descriptive literature covering these features.

ROBERTSHAW THERMOSTAT CO.

Youngwood, Penna.

The Profitable Volume Builder!

in number of sales and gas consumption, too, is the splendid Humphrey designed and built

KALAMAZOO Automatic Storage Heater

It Excels in

Appearance - Durability
Efficiency - Safety

Prices are low for volume selling and represent extraordinary value.

Margins permit the wide advertising and selling effort needed to get volume.

Color makes effective display. Design insures convincing demonstration and use.

Prices facilitate sales.

Reliability keeps them sold.

—an ideal combination for you

207 Sales in February

the most difficult time of the year, is the record of one northern company.

Does that interest you? Details on request.

HUMPHREY COMPANY

KALAMAZOO (DIV. OF RUUD MFG. CO.) MICHIGAN

THE KOMPAK CO.

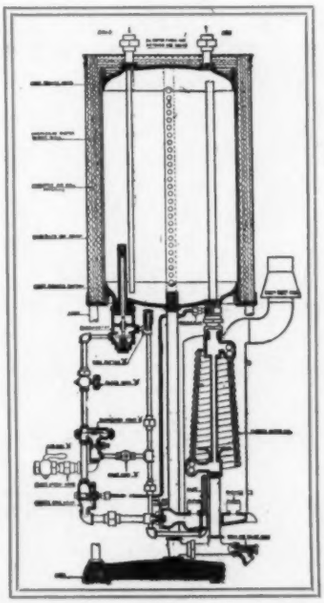
Automatic Thermostatic Gas Water Heaters

NEW BRUNSWICK
NEW JERSEY

The Kompak is *not* a *Side Arm Heater*

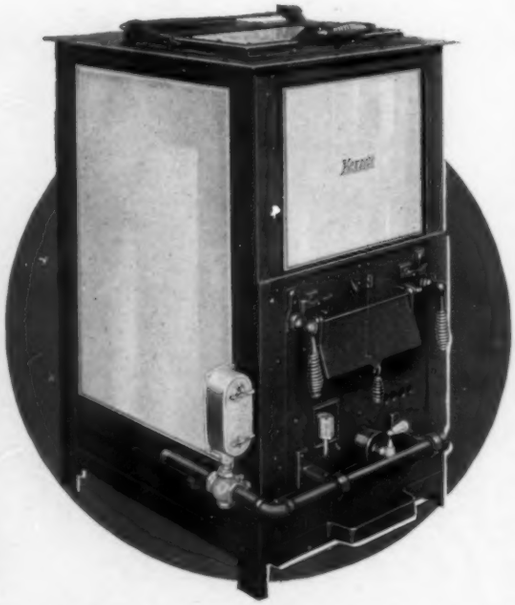
The long hot water tube of the Kompak—carrying the *hot* water from the coil directly to the hot water outlet—has always made it far superior to a side arm heater, where the hot water entered the side of the boiler.

Manufacturers and users alike have discovered that the so-called "tea kettle" or underfired heater is superior to the side arm, but this type can no more compare with the Kompak in service rendered than could the now obsolete side arm type. The Kompak is still the one outstanding heater from the standpoint of hot water service rendered.



THE KOMPAK COMPANY,
NEW BRUNSWICK, N. J.

KERNIT INCINERATOR COMPANY
AMPERE, NEW JERSEY



Catalog and Prices Furnished on Request

The Market for Kernit Incinerators

HOMES—
For the disposal of garbage and combustible rubbish.

DOCTORS, DENTISTS and MORTICIANS—
For the disposal of bandage and cotton dressings, and other unhealthy combustible material which accumulates in such surroundings.

BANKS and other FINANCIAL INSTITUTIONS—
For the disposal of rubbish, cancelled checks and other records which must be absolutely destroyed. Many such institutions also serve luncheon to their employees, so that the disposal of garbage is also a problem.

PRIVATE HOSPITALS and SANITARIUMS—
For the disposal of such materials as listed under the heading of Doctors, Dentists, and also for disposing of garbage, where the quantity is not in excess of the capacity of the KERNIT to take care of.

SCHOOLS, small RESTAURANTS, CAFETERIAS—
For the disposal of garbage and rubbish.

FLORISTS—
For disposing of withered flowers, cut stems, rubbish, etc.

STORES—
Small stores of many kinds that accumulate rubbish, which in most cities must be carted away at the expense of the storekeeper.

Southwestern Joint-Remover and Repair Rings—For Leaking Gas Joints

SELF HEALING
SOUTHWESTERN
PIPE JOINT RINGS

Southwestern Joint-Remover

This machine cuts out the old materials from a bell-and-spigot joint for the insertion of Southwestern Repair Rings, Style 1300. The machine produces quick and easy results and can be shipped from stock in sizes 4", 6" and 8"—other sizes furnished to order.

Prices and further information will be furnished on both joint-remover and repair rings.

Southwestern Pipe Joint & Engineering Company
1108-1110 5th Avenue, North, Birmingham, Alabama
(Factories Passaic, N. J.)

BUILD SALES *by*
. . . Featuring These Three Models at their Reduced Prices . . .

Among our 1928 offerings to the gas industry, is a material reduction in price in the ever popular De Luxe Line of Humphrey Radiantfires — made possible through increased production and gas companies' cooperation.

Opening a wider market for fireplace installations in the extra values offered, we suggest that you feature the De Luxe models shown above—both in your window display and in your newspaper copy.

No smoke—No odor. No ashes—No dust

GENERAL GAS LIGHT COMPANY, KALAMAZOO, MICH.
New York · 44 West Broadway San Francisco · 135 Bluxome Street

IF IT ISN'T A HUMPHREY IT ISN'T A RADIANTFIRE

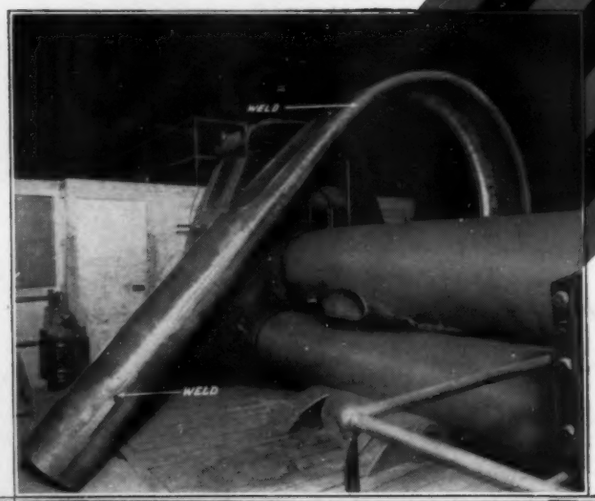
The SMITHWeld

[PATENTED]

HELD

through these tests

made at our plant in the presence of representatives of large operating gas companies.



Each of these tests and some others equally interesting will be presented with accompanying data in succeeding advertisements.

A. O. SMITH CORPORATION
General Offices—Milwaukee, Wisconsin

Oil & Gas Field Products Division
District Offices at New York, Pittsburgh, Tulsa, Houston, Los Angeles

SMITHSTEEL
GAS LINE PIPE

Two Profits—Plus Good-will!

There's a two-fold profit in installing this tried and proven gas burner, plus the good-will accruing from a host of satisfied customers, who will be enabled to enjoy the comfort, convenience, and cleanliness of gas house heating at little cost.

STANDARD UNIT

ROBERTS

Radiant Type Controlled GAS BURNER

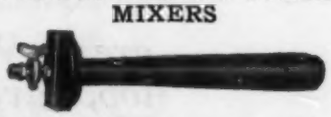
The Roberts Gas Burner can be installed in any existing heating systems and quickly convert them into dependable heating units with very little alteration to the furnace or boiler; thus considerably lessening the resistance to the initial and subsequent cost of house heating with gas.

SPECIAL UNIT FOR RECTANGULAR SECTIONAL BOILERS

The principle of radiant heat is utilized to the utmost in the Roberts Burner, the radiants directing and "scrubbing" the flames against the firepot walls. The control of the secondary air is a distinct innovation that not only assures complete combustion, but prevents the sudden cooling of the furnace when the gas is shut off.

Write at once and learn how the Roberts Gas Burner will swell your appliance profits, increase your send-out and make staunch friends for the Company.

VENTURI DRAWN STEEL MIXERS



Made from finest steel tubing, giving a smooth finish to the interior gas passage. Backfiring is practically eliminated, and friction losses negligible. Maximum air injection on minimum gas pressure.

ROBERTS GAS BURNER CORPORATION

JACKSON BUILDING, 128 WEST CHIPPEWA STREET, BUFFALO, N. Y.

COOPER OVEN THERMOMETER

STYLE "B"
(Actual Size)
Interchangeable with heat control.
Nickel or Porcelain Enamel Cover

Shows actual Fahrenheit degrees.

Quick-acting thermostatic metal registers correct temperature immediately.

Extreme heat cannot injure or make the thermometer inaccurate.

Style B interchangeable with heat controls.

Carefully calibrated.

Porcelain enamel dials in two colors.

Accuracy guaranteed for the life of the oven.

No glass or mica to get broken.

Economical in price.

Handsome in appearance, adds greatly to the looks of any oven.

"Have Given Splendid Satisfaction for Over 30 Year"

This is the opinion expressed by a firm in the West, which has manufactured ranges for 70 years, regarding

THE COOPER OVEN THERMOMETER

Over a quarter century ago this progressive firm was quick to realize the value of a thoroughly reliable heat indicator for their range ovens, and today prominent range manufacturers are rapidly adopting the Cooper Oven Thermometer as

Standard Equipment for Every Gas Range.

The Cooper Oven Thermometer Co.

4 MAIN STREET (Established 1885) PEQUABUCK, CONN.

BAROMETERS

PHILADELPHIA, THE WORKSHOP OF THE WORLD, has 14,000 Manufacturing Establishments of which many have World-Wide Reputations.

"PRINCO" STANDARD FORTIN MERCURIAL BAROMETERS

are in World-Wide use because they, too, have a "World-Wide Reputation"

THEY ARE GOOD BAROMETERS
THEY ARE REASONABLE IN PRICE!

For more than a decade they have been made in such manner that they can be shipped safely and successfully wherever there is a common carrier. This has been recognized as an achievement in Barometry.

PRECISION THERMOMETER & INSTRUMENT COMPANY

1439 BRANDYWINE STREET - - - - - PHILADELPHIA, PA.

400 CR Series—4 section
500 CR Series—5 section
Finished in Mahogany, Crystal Enamel.

Let the *Solid Sheet* help the *Profit Sheet*

Put unprofitable customers into the profitable class—by selling them Roper Sheetflame Radiant Heaters.

Each sale you make means a double profit. First, a profit on the sale itself. Second, a profit on the increased use of gas per meter.

The Roper Sheetflame Radiant Heater is built on the correct principle for radiating heat. It is the only heater which operates with a solid sheet of flame extending across the entire heating surface.

It comes in a variety of designs and sizes to suit every taste and every buying habit.

It offers a wide choice of colors including Mahogany Crystal Enamel, Green Crystal Enamel, Red Brown Crystal Enamel and Black Enamel finish; also in Antique Brass, Oxidized Brass and French Gray.

Let the Roper Sheetflame Radiant Heater line help you increase your sales of appliances and gas. Write or wire for complete information.

No. 401—4 section
No. 501—5 section
Finished in Antique Brass or French Gray.

No. 541—5 section
No. 641—6 section
Finished in Antique Brass or French Gray.

All Roper Sheetflame Radiant Heaters carry the Blue Star Seal of Approval of The American Gas Association Testing Laboratory.

GEO. D. ROPER CORPORATION
ROCKFORD, ILLINOIS

ROPER

Sheetflame
RADIANT HEATERS

THE SOLID SHEET THROWS OUT MORE HEAT

Natural Gas Men

In confirmation of the fact that the interests of the Natural Gas and Manufactured Gas industries are allied, is the covention now in progress in Dallas, Texas.

The recent amalgamation of the two dominating gas associations, serves to prove that the two branches of the gas industries have much in common.

Outside of the actual making of gas, many of the problems current in the manufactured gas plant, are applicable to the natural gas field.

For example:—Distribution, Accounting, Merchandising, Home-Service, Industrial Uses, House Heating and etc., etc., are akin to both businesses, and can be treated in a similar manner in both industries.

It is, therefore, to the best interests of the gas men assembled at this convention, to learn as much of each others methods of handling their various affairs, so that greater cooperation can be effected to the end that more profit can accrue from their investments, through reduced production costs.

LOOK OVER THIS ISSUE

Note the articles of interest to every gas man in the two fields.

Through the American Gas Journal, the pioneer gas paper, established in 1859, an intimate knowledge of the manufactured gas industry can be obtained, as well as many of the high lights relating to your own industry, so that you can keep well informed about the doings in both industries.

The subscription price is only $2.00 per year. Sign the coupon today.

American Gas Journal

53 PARK PLACE, NEW YORK

ALSO PUBLISHERS OF AMERICAN GAS CATALOG

American Gas Journal,
53 Park Place,
New York, N. Y.

I desire to begin reading the American Gas Journal, commencing with the current issue. Please enter my subscription for one year.

Name .....

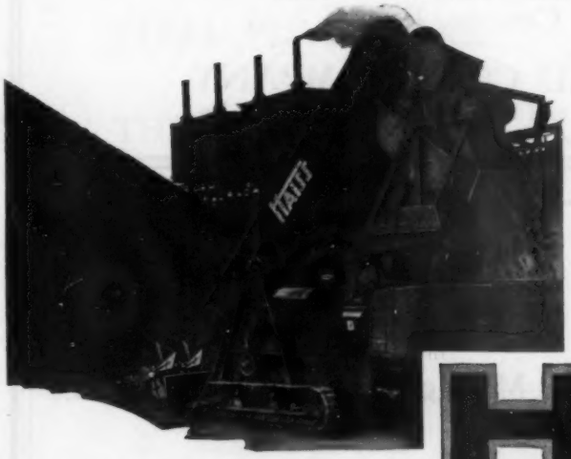
City .....State.....

Company .....

Position .....

Sign and Mail Coupon To-day!

MAKE A HAISS LOADER DO YOUR SCREENING AS IT LOADS



There is no reason why a stockpile of coke should present any loading difficulty—Haiss Loaders have overcome all that.

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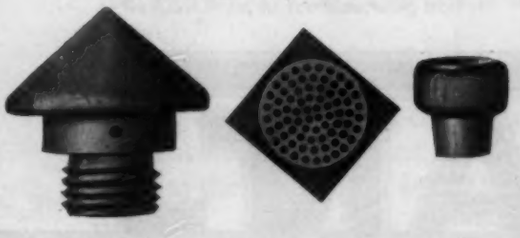

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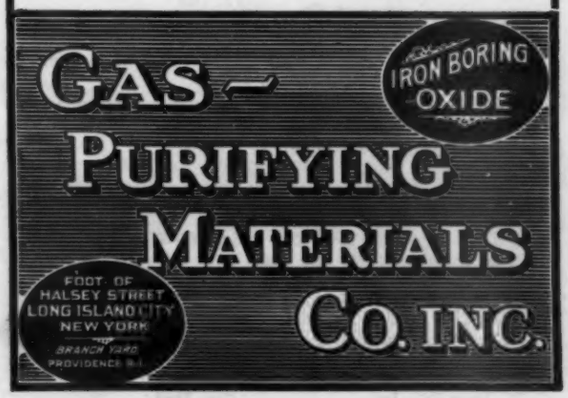

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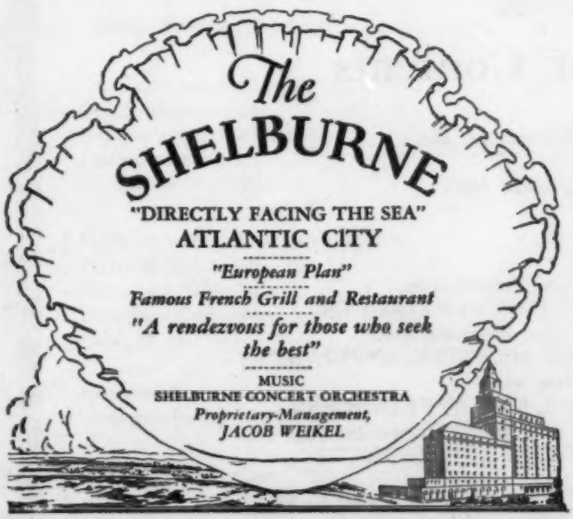

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AUTHORITY

Prepared and edited by the Technical Section of the Pacific Coast Gas Association under the supervision of E. L. Hall of the Portland (Oregon) Gas & Coke Company, Chairman of the Section. The special committee which compiled this volume was headed by R. M. Conner, now Director of the Gas Appliance Testing Laboratory of the American Gas Association. Mr. Conner was assisted by Walter M. Berry, formerly Gas Engineer of the Bureau of Standards and now Executive Engineer of the California Gas Research Council, and Prof. S. H. Graf of the Oregon State Agricultural College.

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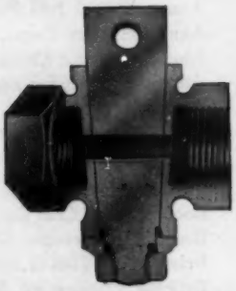

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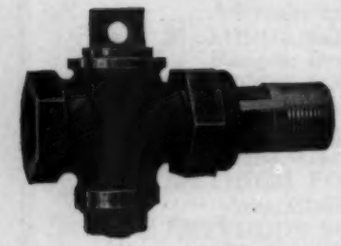

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